

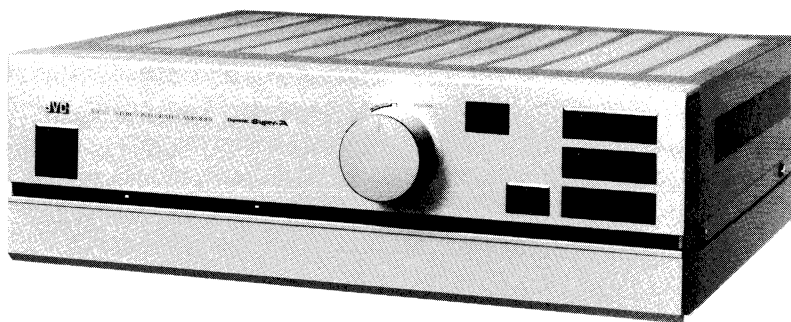
JVC

SERVICE MANUAL

MODEL

A-X55

STEREO INTEGRATED AMPLIFIER



No. 2589
Mar. 1982

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		for Designated Areas	22

Warning: When replacing the parts marked with \triangle , be sure to use the designated parts to ensure safety.

1. Specifications

CIRCUITRY

Preamplifier	: ICL, DC-servo MC/MM equalizer with EL-FETs in its initial stage
Power amplifier	: 3-Stage differential ICL-DC "Dynamic Super-A" power amplifier with cascode-connected dual FETs and a boot-strap amp in its initial stage

ALLOVER CHARACTERISTICS

Output power (AUX IN — SP. OUT)	
1 kHz	: 75 watts RMS per channel min. (8 ohms, 0.0007 % total harmonic distortion measured by JVC Audio Analyze System)
	: 83 watts RMS per channel min. (8 ohms, 0.7 % total harmonic distortion)
20 Hz — 20 kHz	: 70 watts RMS per channel min. (both channels driven into 8 ohms from 20 Hz to 20 kHz, with no more than 0.003 % total harmonic distortion.)
Total harmonic distortion	
AUX IN — SP. OUT	: 0.003 % (20 Hz—20 kHz, 8 ohms) at 70 watts
PHONO IN — SP. OUT	
at Volume —30 dB	: 0.007 % (20 Hz—20 kHz, 8 ohms) at 70 watts
Intermodulation distortion	
(AUX IN — SP. OUT)	: 0.002 % (60 Hz: 7 kHz=4 : 1, 8 ohms) at 70 watts
Power band width	: 5 Hz—60 kHz (IHF, 0.02 %, (AUX IN— SP. OUT) 8 ohms both channels driven)
Frequency characteristic	: DC—300 kHz +0, —3 dB (8 ohms)
Damping factor	: 150 (1 kHz, 8 ohms)
Input terminals	
Input sensitivity/impedance (1 kHz)	
PHONO (MM)	: 2.5 mV/47 kohms
PHONO (MC)	: 180 μ V/100 ohms
TUNER	: 160 mV/47 kohms
AUX	: 160 mV/47 kohms
TAPE	: 160 mV/47 kohms

Signal-to-noise ratio

PHONO (MM)	: 86 dB
PHONO (MC)	: 70 dB (250 μ V input)
TUNER	: 110 dB
AUX	: 110 dB
TAPE	: 110 dB
(IHF A Network short circuit)	
PHONO (MM)	: 84 dB (Rec out)
PHONO (MC)	: 76 dB (Rec out)
TUNER	: 84 dB (Speaker out)
AUX	: 84 dB (Speaker out)
TAPE	: 84 dB (Speaker out)
(IHF A-202)	
Tone controls	: TREBLE: \pm 8 dB (10 kHz)
	: BASS: \pm 8 dB (100 Hz)
Subsonic filter	: 18 Hz (—6 dB/oct)
Loudness control	: 100Hz: +6dB, 10kHz: +4dB (at VOLUME —30 dB)
Muting level	: —20 dB

EQUALIZER

PHONO overload capacity	
PHONO (MM)	: 250 mV (1 kHz, 0.004 % THD)
PHONO (MC)	: 15 mV (1 kHz, 0.008 % THD)
PHONO RIAA deviation	: \pm 0.2 dB (20 Hz—20 kHz)
Total harmonic distortion	
PHONO (MM)	: 0.004 % (at 8 V output, 20 Hz—20 kHz)
PHONO (MC)	: 0.008 % (at 8 V output, 20 Hz—20 kHz)

Recording output

Output level/impedance	
TAPE REC-1,2	: 160 mV/660 ohms (PHONO)

GENERAL

Power source	: See page 22
Dimensions	: 5-1/2''(H) x 17-1/8''(W) x 15-7/8''(D)
	: (14.0 cm(H) x 43.5 cm(W) x 40.4 cm(D))
Weight	: 22.0 lbs. (10 kg)

Design and specifications subject to change without notice.

2. Technical Explanation of "Dynamic Super-A"

2-(1) Basic Configuration of "Dynamic Super A" Power Amplifier

This basic configuration is as shown below.

Newly developed "isolate drive circuit" and "wave correction circuit" are added to the conventional Super A bias circuit. In addition, newly developed IC exclusive for Dynamic Super A is employed in the Super A bias circuit.

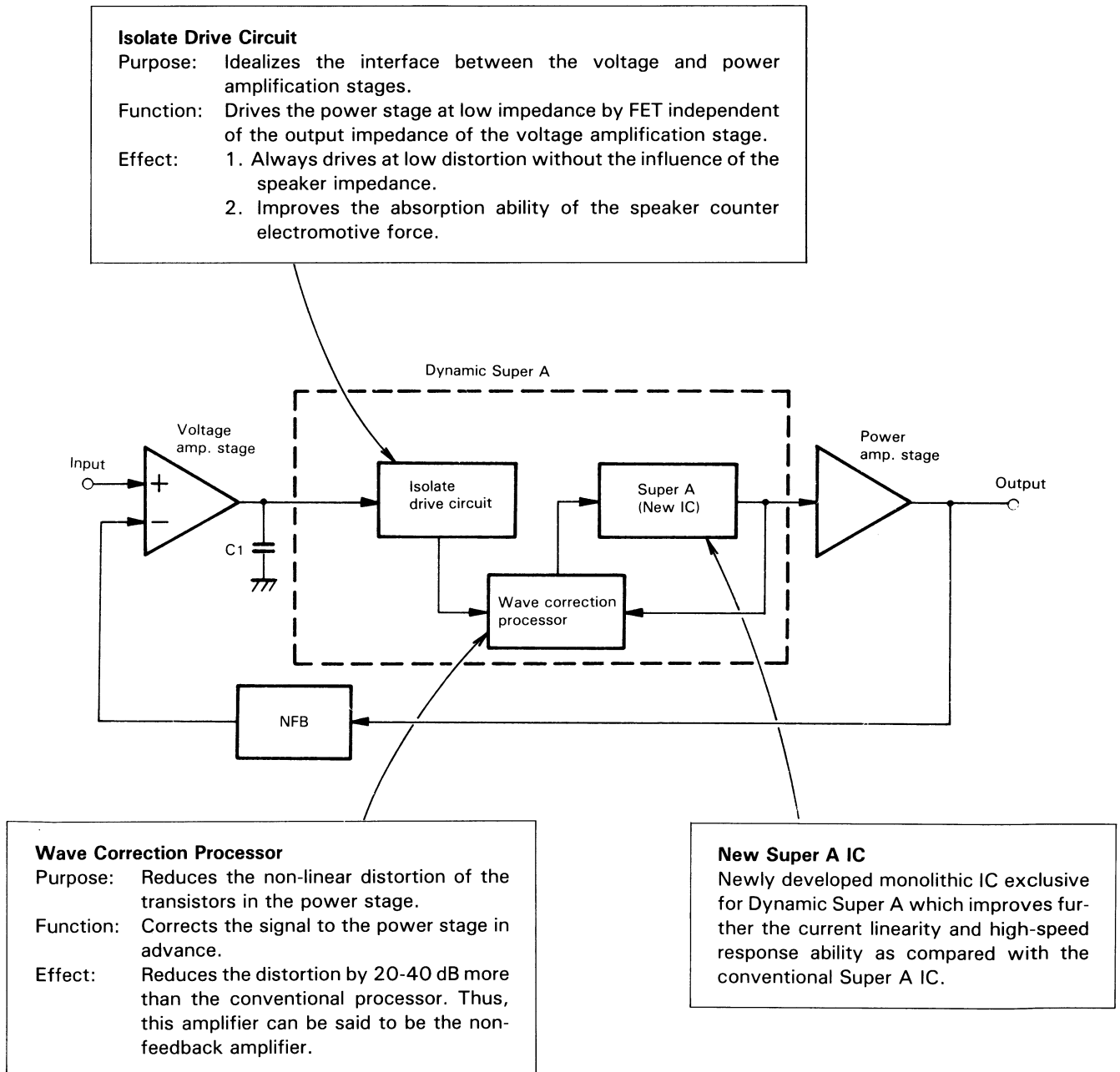


Fig. 1 Block Diagram of Dynamic Super A

2-(2) "Dynamic Super A" Circuit Operation

1. Isolate Drive Circuit

This circuit is basically an FET source-follower circuit. In A-X55, adequate dielectric strength is assured by the cascode connection between Q501 2SK170 (BL, V) and Q505.

Q503 is a constant current circuit which determines the current flowing in zener diode D509 RD2.7EB2 which determines the cascode voltage of Q501 and Q505.

Q507 is a constant current circuit which determines the current flowing in Q501.

2. Wave Correction Processor Circuit

This circuit decreases the non-linear distortion in the power stage. It converts into a current the non-linear distortion voltage detected by emitters of Q515 2SC2240 (GR, BL) and Q517 2SA970 (GR, BL). This conversion current is applied across R509 (270Ω) to the input signal in anti-phase to deny the distortion.

Thus, the distortion is reduced by 20-40 dB.

3. New Super A IC

The basic operation of this IC is the same as that of the conventional Super A IC. This new Super A IC is a monolithic IC exclusive for Dynamic Super A with further improved current linearity and faster response.

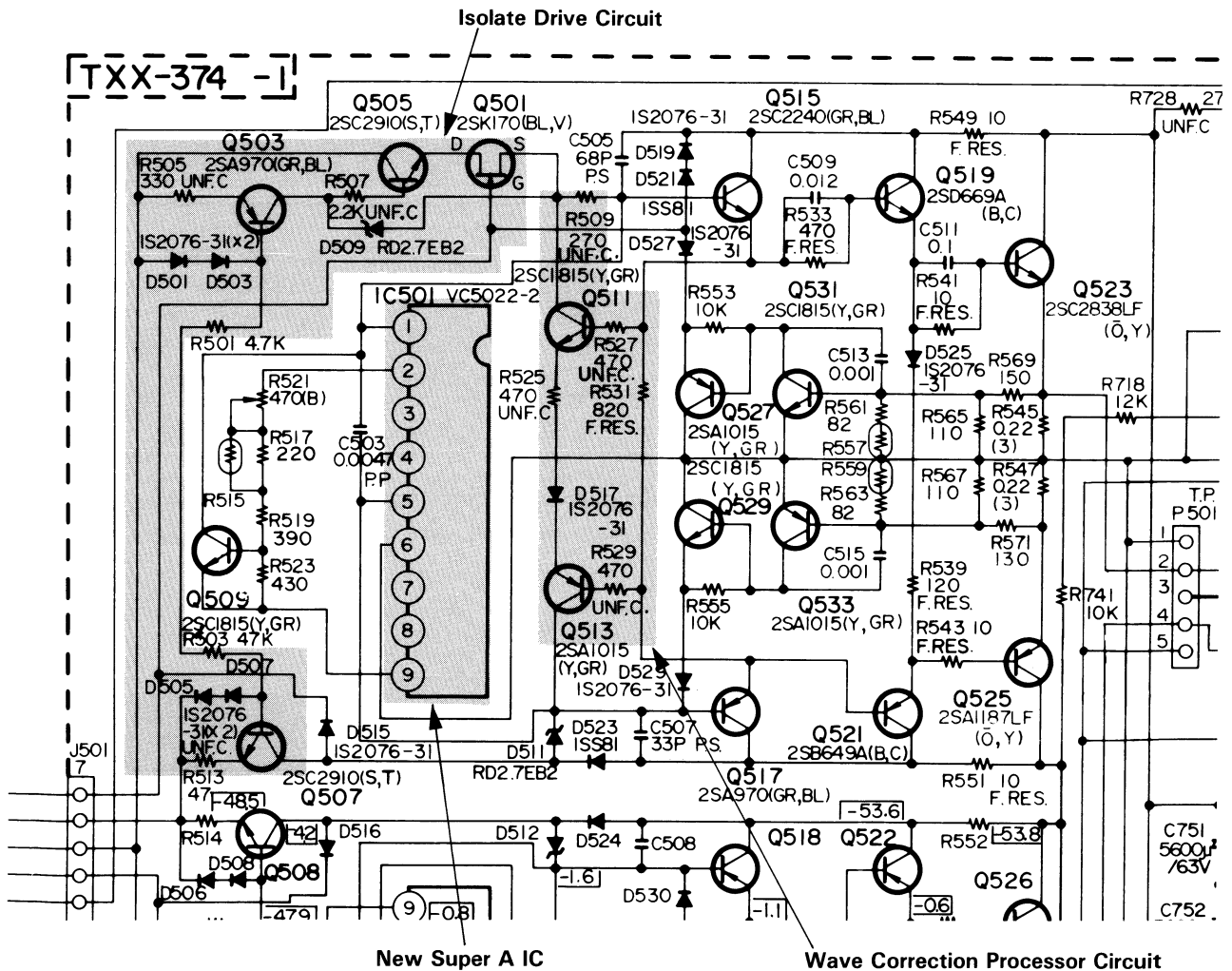


Fig. 2

3. Main Parts Location and Part Numbers

3-(1) Front View

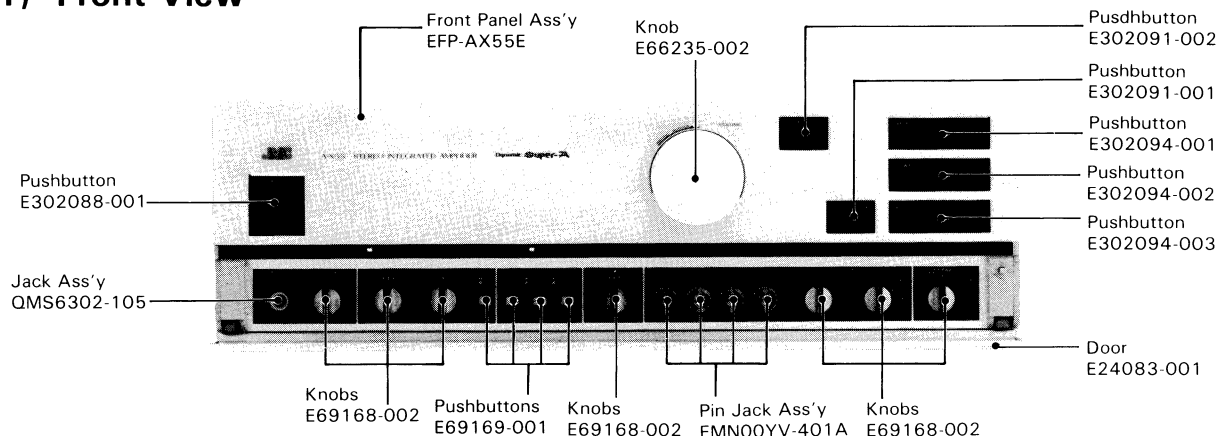


Fig. 3

3-(2) Rear View

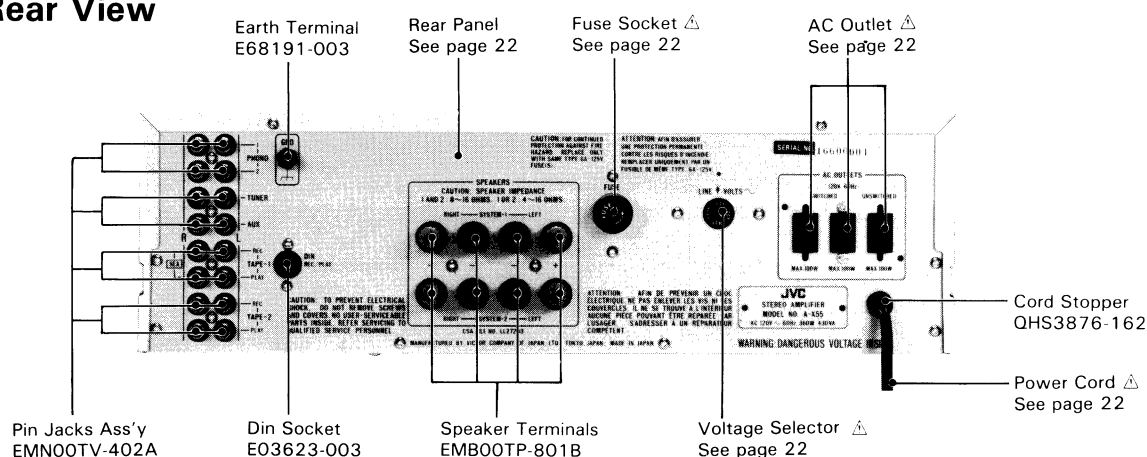


Fig. 4

3-(3) Top View

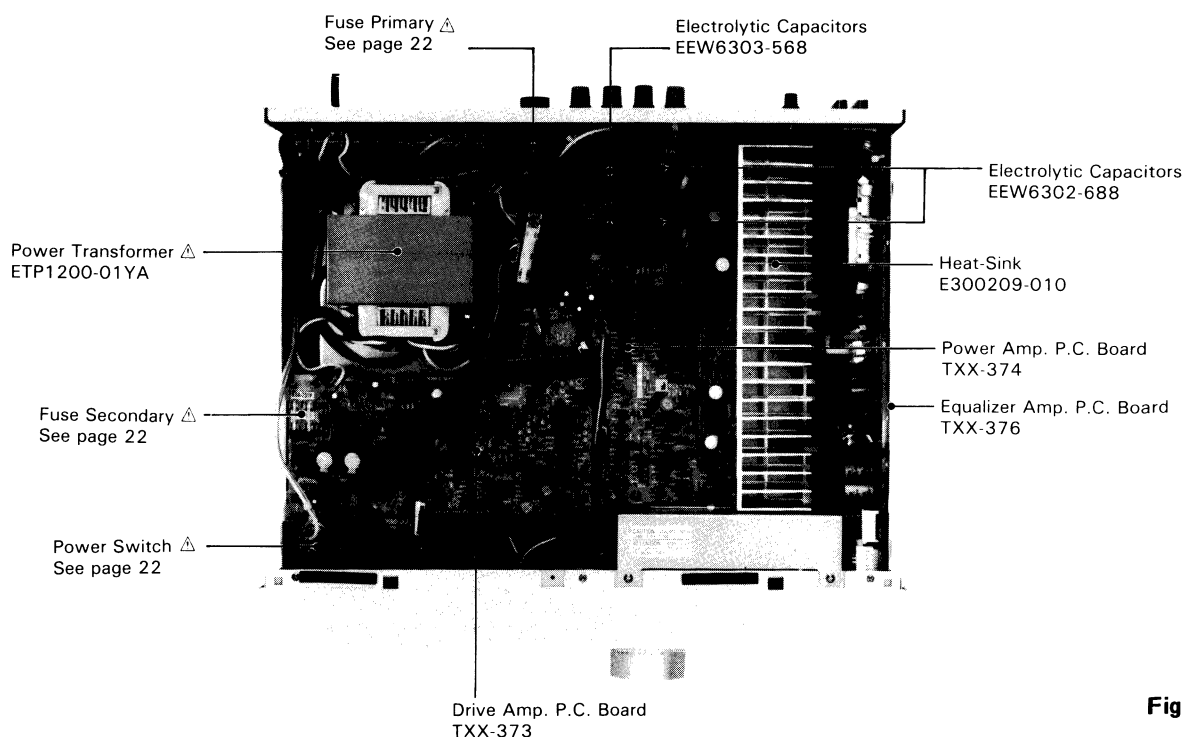


Fig. 5

4. Block Diagram

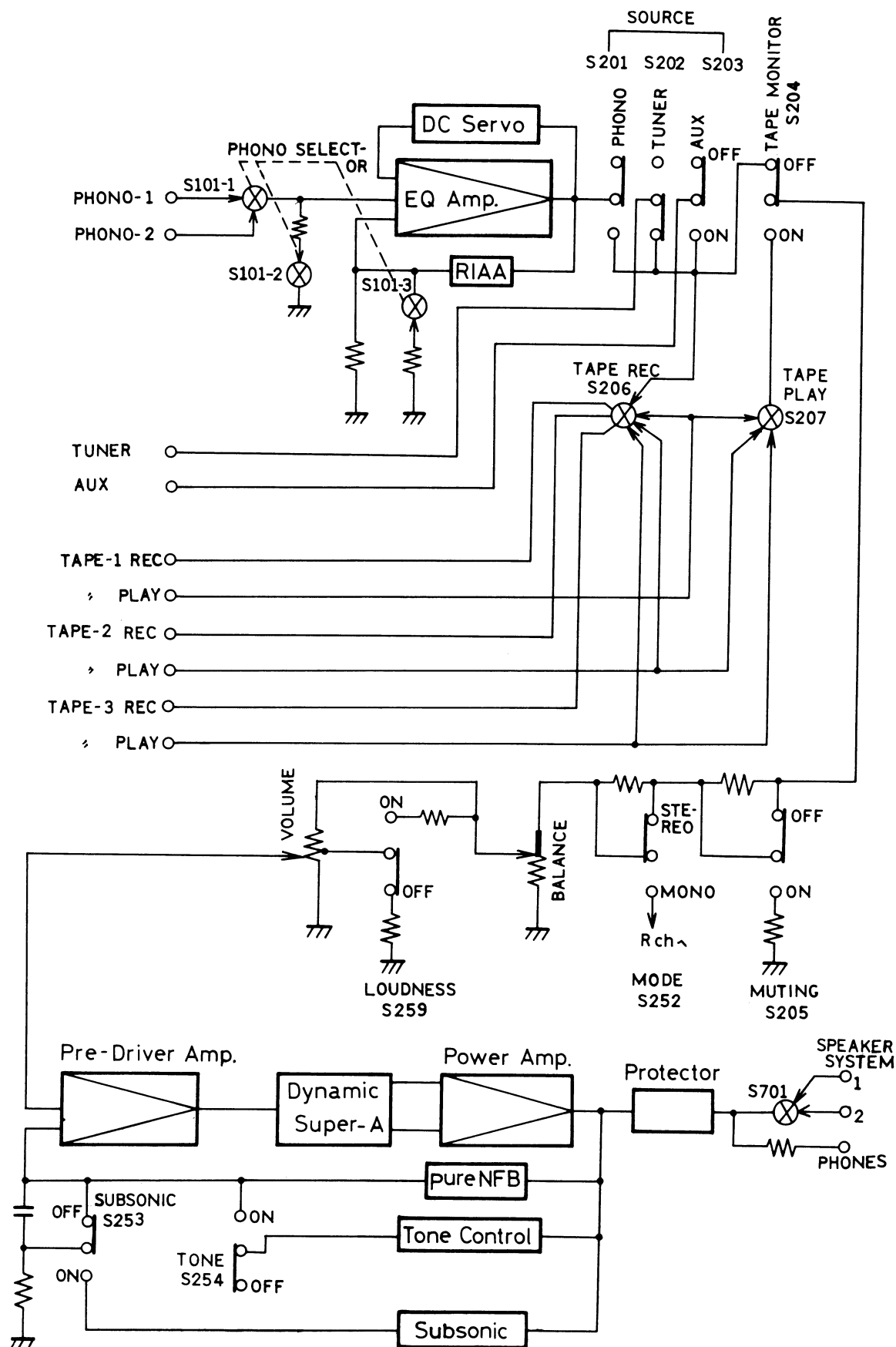
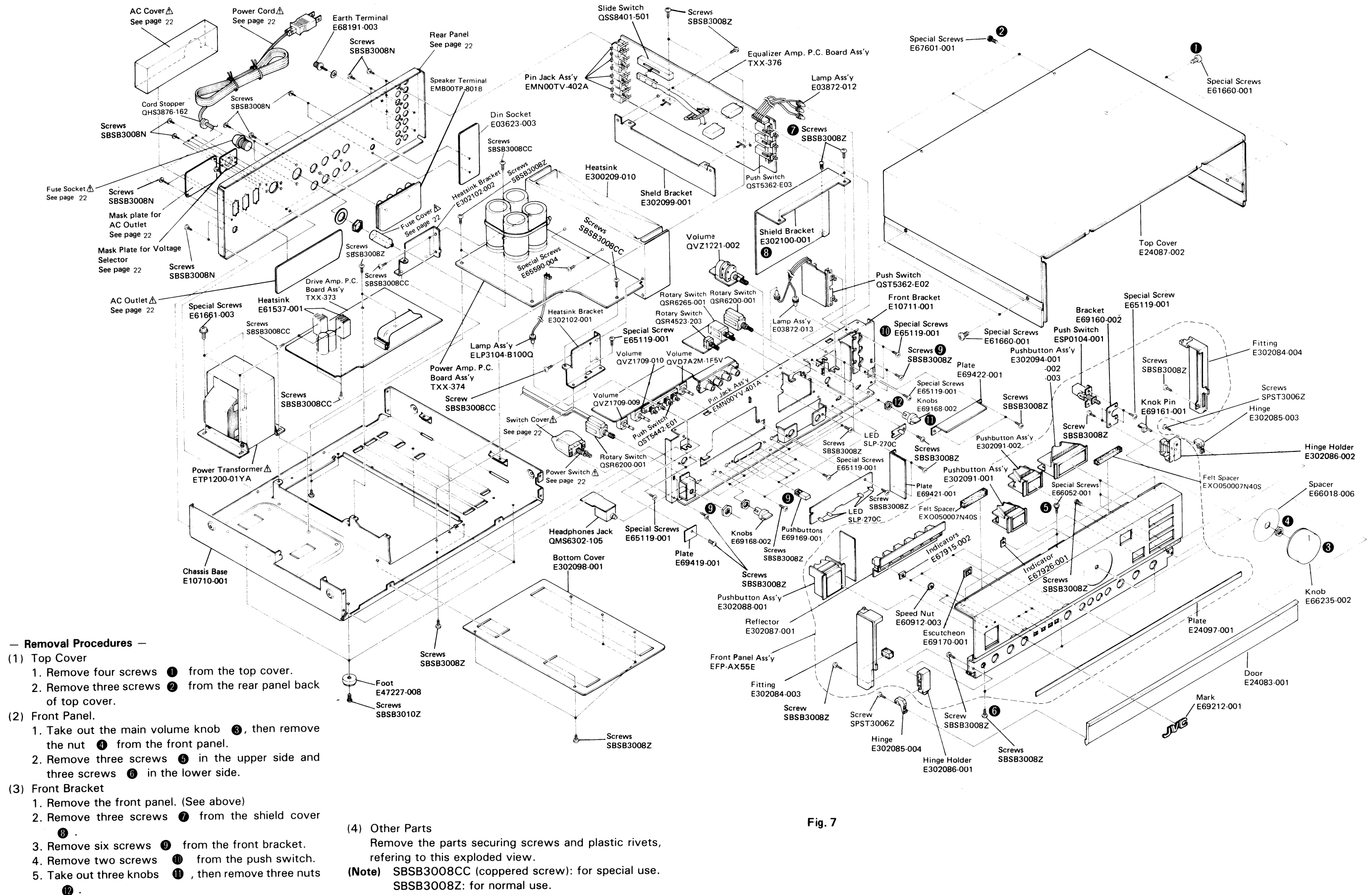


Fig. 6

5. Exploded View and Part Numbers



6. Amplifier Adjustment Procedures

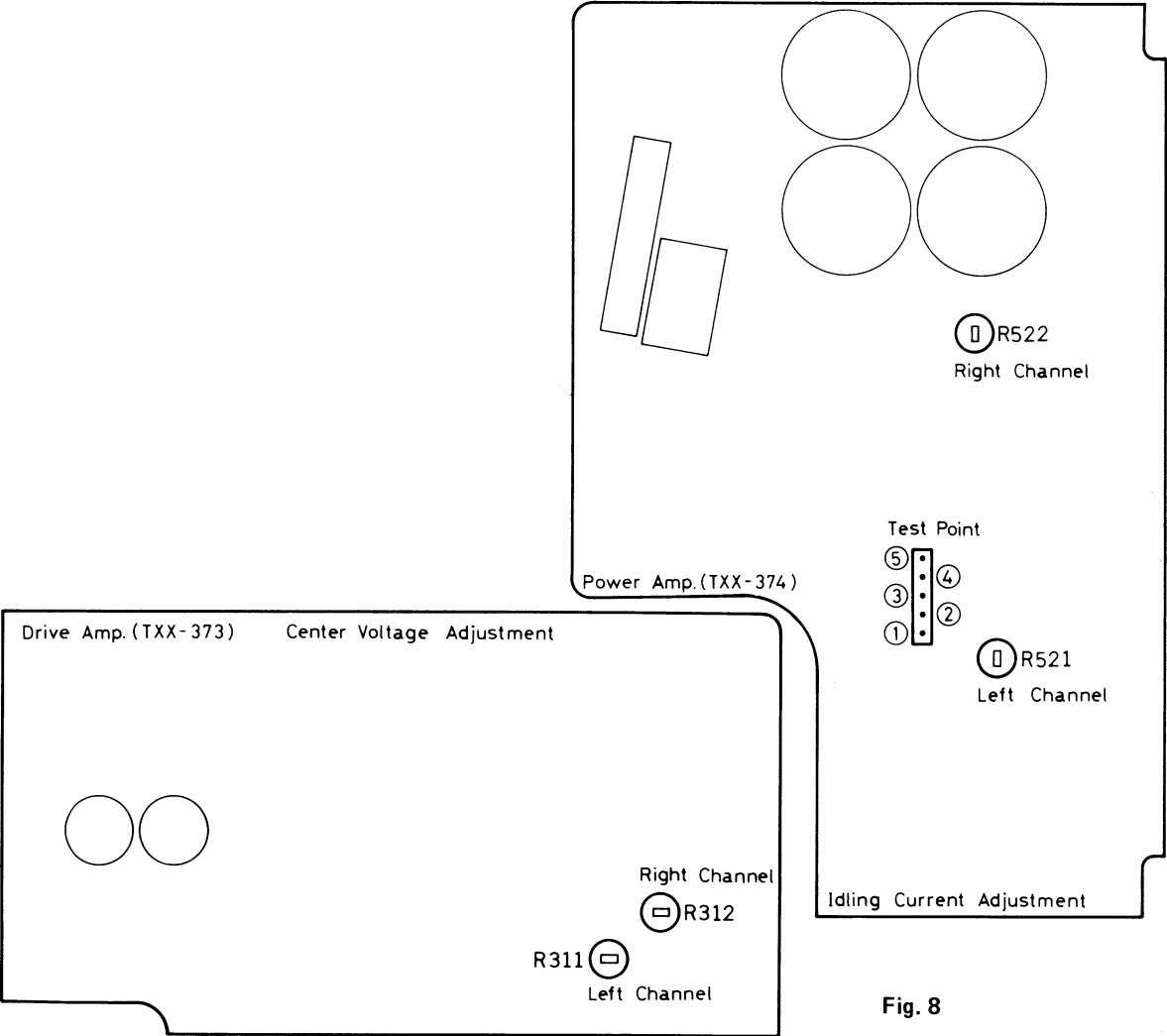


Fig. 8

6-(1) Drive Amp. Center Voltage Adjustment

1. Before turning on the power, set the semi-fixed resistors (R311 for Left channel and R312 for Right channel) of the drive amplifier circuit board (TXX-373) to the center position.
2. Adjust the semi-fixed resistors (R311 and R312) so that the voltage at the following test points of the power amplifier circuit board (TXX-374) is within a range of $\pm 10\text{mV}$ or less five minutes after the power is turned on.
Left channel: Measure the voltage between test point ① and test point ③ (ground).
Right channel: Measure the voltage between test point ⑤ and test point ③ (ground).
The measurements can also be performed at the speaker terminals if the relay is operating normally.

6-(2) Power Amp. Idling Current Adjustment

1. Before turning on the power, turn the semi-fixed resistors (R521 for Left channel and R522 for Right

- channel) of the power amplifier circuit board fully counterclockwise.
2. Adjust the semi-fixed resistors (R521 and R522) so that the voltage at the following test points of the power amplifier circuit board is within a range of $9\text{mV} \sim 13\text{mV}$ after the power is turned on.
Left channel: Measure the voltage between test point ② (emitter of Q523) and output at the test point ①.
Right channel: Measure the voltage between test point ④ (emitter of Q524) and output at the test point ⑤.
3. Readjust resistors R521 and R522 about five minutes after the power is turned on (the heat-sink temperature must be sufficiently high) so that the voltage at the test points becomes 11mV . Confirm that the voltage does not vary when the heat-sink temperature increases further.
Note: Be sure to perform the measurement with the probes and cabinet of the measuring equipment separated from the grounding terminals of A-X55 or of other measuring equipment.

7. Printed Circuit Board Ass'y and Parts List

7-(1) TXX-376 Equalizer Amp. P.C. Board Ass'y

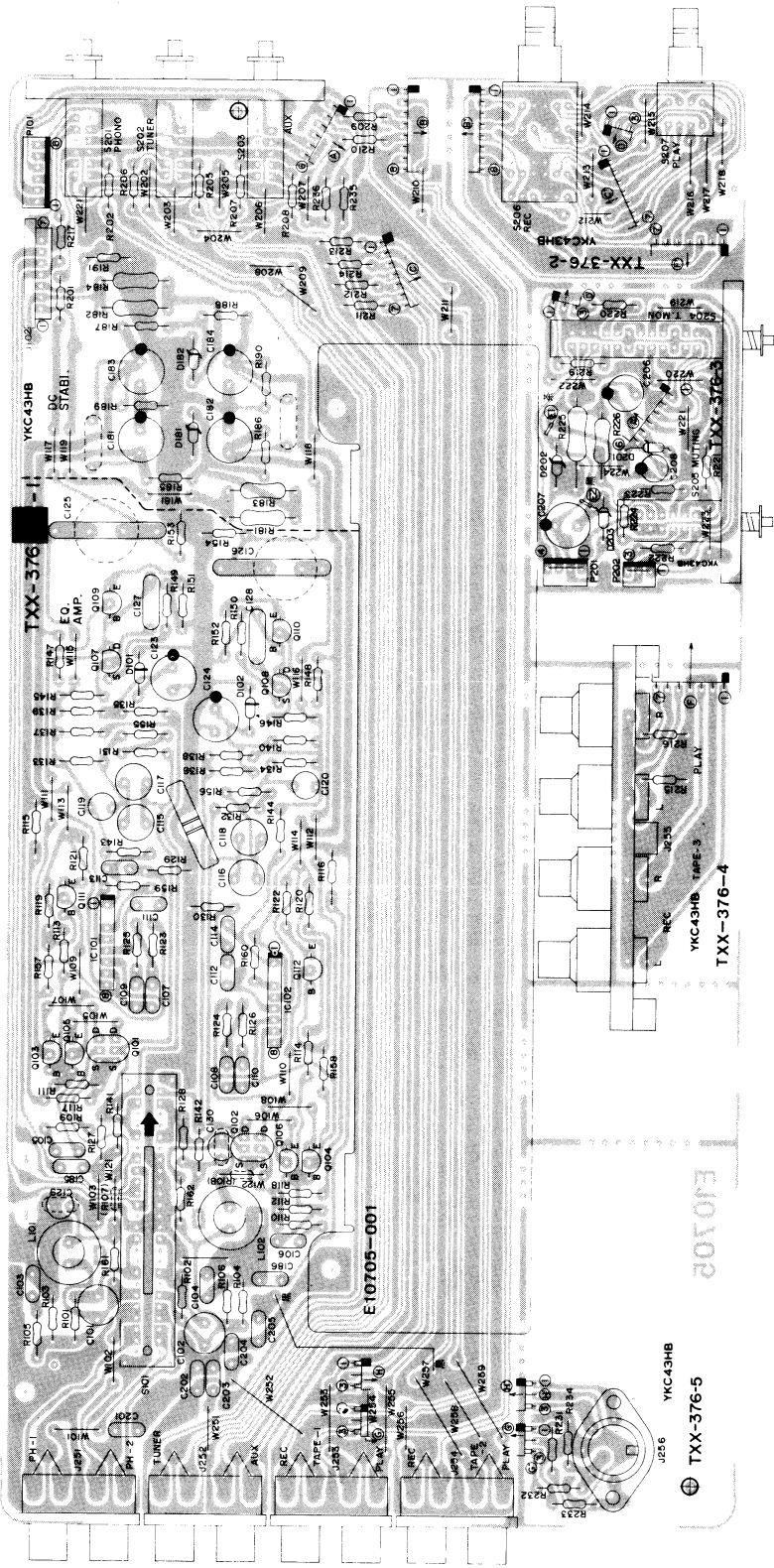


Fig. 9

Transistors

Item No.	Part Number	Rating	Description	Maker
Q101	2SK240V(BL,V)		F.E.T.	
Q102	2SK240V(BL,V)		"	
Q103	2SC2240(GR,BL)		Silicon	Toshiba
Q104	2SC2240(GR,BL)		"	"
Q105	2SC2240(GR,BL)		"	"
Q106	2SC2240(GR,BL)		"	"
Q107	2SK163(L1)		F.E.T.	NEC
Q108	2SK163(L1)		"	"
Q109	2SC1815(Y,GR)		Silicon	Toshiba
Q110	2SC1815(Y,GR)		"	"
Q111	2SA970(GR,BL)		"	"
Q112	2SA970(GR,BL)		"	"

Integrated Circuits

Item No.	Part Number	Rating	Description	Maker
IC101	HA12017		I.C.	Hitachi
IC102	HA12017		I.C.	"

Diodes

Item No.	Part Number	Rating	Description	Maker
D181	RD27EB3		Silicon	NEC
			(Zener)	
D182	RD27EB3		"(Zener)	"
D201	RD11EB3		"(Zener)	"
D202	RD10EB3		"(Zener)	"
D203	RD10EB3		"(Zener)	"

Coils

Item No.	Part Number	Rating	Description
L101	EQL0111-151		Inductor (for W.Germany)
L102	EQL0111-151		Inductor (for W.Germany)

Capacitors

Item No.	Part Number	Rating	Description
C101	QFS81HJ-123	0.012μF 50V	Polystyrene
C101	QFS81HJ-471	470pF 50V	"
C102	QFS81HJ-123	0.012μF 50V	(for W.Germany) Polystyrene
C102	QFS81HJ-471	470pF 50V	Polystyrene (for W.Germany)
C103	QFP31HJ-151	150pF 50V	Polypropylene (Except W.Germany)
C104	QFP31HJ-151	150pF 50V	Polypropylene (Except W.Germany)
C105	QFM81HJ-472	4700pF 50V	Mylar
C106	QFM81HJ-472	4700pF 50V	"
C107	QFM81HJ-472	4700pF 50V	"
C108	QFM81HJ-472	4700pF 50V	"
C109	QFM81HJ-103	0.01μF 50V	"
C110	QFM81HJ-103	0.01μF 50V	"
C111	QFP31HJ-101	100pF 50V	Polypropylene
C112	QFP31HJ-101	100pF 50V	"
C113	QFP31HJ-471	470pF 50V	"


Capacitors

Item No.	Part Number	Rating	Description
C114	QFP31HJ-471	470pF 50V	Polypropylene
C115	QFS81HG-822	8200pF 50V	Polystyrene
C116	QFS81HG-822	8200pF 50V	"
C117	QFS81HG-822	8200pF 50V	"
C118	QFS81HG-822	8200pF 50V	"
C119	QFS81HG-472	4700pF 50V	"
C120	QFS81HG-472	4700pF 50V	"
C123	QET51AR-477H	470μF 10V	Electrotic
C124	QET51AR-477H	470μF 10V	"
C125	EFZ0089-475	4.7μF	Metallized Mylar
C126	EFZ0089-475	4.7μF	"
C127	EFZ0089-474	0.47μF	"
C128	EFZ0089-474	0.47μF	"
C129	QFP31HJ-471	470pF 50V	Polypropylene (for W.Germany)
C129	QFS81HJ-470	47pF 50V	Polystyrene
C130	QFP31HJ-471	470pF 50V	Polypropylene (for W.Germany)
C130	QFS81HJ-470	47pF 50V	Polystyrene
C131	QFP31HJ-101	100pF 50V	Polypropylene (for W.Germany)
C132	QFP31HJ-101	100pF 50V	Polypropylene (for W.Germany)
C181	QET51VR-227H	220μF 35V	Electrotic
C182	QET51VR-227H	220μF 35V	Electrolytic
C183	QET51VR-227H	220μF 35V	"
C184	QET51VR-227H	220μF 35V	"
C185	QFM81HK-473	0.047μF 50V	Mylar
C186	QFM81HK-473	0.047μF 50V	"
C201	QFM81HK-103	0.01μF 50V	"
C202	QFM81HK-103	0.01μF 50V	"
C203	QFM81HK-103	0.01μF 50V	"
C204	QFM81HK-103	0.01μF 50V	"
C205	QFM81HK-103	0.01μF 50V	"
C206	QET51CR-107H	100μF 16V	Electrolytic
C207	QET51CR-227H	220μF 16V	"
C208	QET51CR-476H	47μF 16V	"


Resistors

Item No.	Part Number	Rating	Description
R101	QRD141J-101S	100Ω 1/4W	Carbon
R102	QRD141J-101S	100Ω 1/4W	"
R103	QRD141J-473S	47kΩ 1/4W	"
R104	QRD141J-473S	47kΩ 1/4W	"
R105	QRD148J-471S	470Ω 1/4W	"
			(Except W.Germany)
R106	QRD148J-471S	470Ω 1/4W	Carbon (Except W.Germany)
R107	QRD148J-5R6S	5.6Ω 1/4W	Carbon (for W.Germany)
R108	QRD148J-5R6S	5.6Ω 1/4W	Carbon (for W.Germany)
R109	QRD141J-331S	330Ω 1/4W	Carbon
R110	QRD141J-331S	330Ω 1/4W	"
R111	QRD141J-153S	15kΩ 1/4W	"
R112	QRD141J-153S	15kΩ 1/4W	"
R113	QRD141J-823S	82kΩ 1/4W	"
R114	QRD141J-823S	82kΩ 1/4W	"
R115	QRD141J-162S	1.6kΩ 1/4W	"
R116	QRD141J-162S	1.6kΩ 1/4W	"
R117	QRD141J-162S	1.6kΩ 1/4W	"
R118	QRD141J-162S	1.6kΩ 1/4W	"
R119	QRD141J-621S	620Ω 1/4W	"
R120	QRD141J-621S	620Ω 1/4W	"

Resistors

Item No.	Part Number	Rating		Description
R121	QRD141J-621S	620Ω	1/4W	Carbon
R122	QRD141J-621S	620Ω	"	"
R123	QRD141J-560S	56Ω	"	"
R124	QRD141J-560S	56Ω	"	"
R125	QRD141J-681S	680Ω	"	"
R126	QRD141J-681S	680Ω	"	"
R127	QRD141J-331S	330Ω	"	"
R128	QRD141J-331S	330Ω	"	"
R129	QRD141J-911S	910Ω	"	"
R130	QRD141J-911S	910Ω	"	"
R131	QRD141J-184S	180kΩ	"	"
R132	QRD141J-184S	180kΩ	"	"
R133	QRD141J-163S	16kΩ	"	"
R134	QRD141J-163S	16kΩ	"	"
R135	QRD141J-222S	2.2kΩ	"	"
R136	QRD141J-222S	2.2kΩ	"	"
R137	QRD141J-205S	2kΩ	"	"
R138	QRD141J-205S	2kΩ	"	"
R139	QRD141J-133S	13kΩ	"	"
R140	QRD141J-135S	13kΩ	"	"
R141	QRD141J-240S	24Ω	"	"
R142	QRD141J-240S	24Ω	"	"
R143	QRD141J-220S	22Ω	"	"
R144	QRD141J-220S	22Ω	"	"
R145	QRD141J-475S	4.7MΩ	"	"
R146	QRD141J-475S	4.7MΩ	"	"
R147	QRD141J-683S	68kΩ	"	"
R148	QRD141J-683S	68kΩ	"	"
R149	QRD141J-182S	1.8kΩ	"	"
R150	QRD141J-182S	1.8kΩ	"	"
R151	QRD141J-752S	7.5kΩ	"	"
R152	QRD141J-752S	7.5kΩ	"	"
R153	QRD141J-224S	220kΩ	"	"
R154	QRD141J-224S	220kΩ	"	"
R155	QRD141J-123S	12kΩ	"	"
R156	QRD141J-123S	12kΩ	"	"
R157	QRD141J-102S	1kΩ	"	"
R158	QRD141J-102S	1kΩ	"	"
R159	QRD141J-433S	43kΩ	"	"
R160	QRD141J-433S	43kΩ	"	"
R161	QRD148J-152S	1.5kΩ	"	Carbon (for W.Germany)
R161	QRD148J-5R6S	5.6Ω	"	Carbon
R162	QRD148J-152S	1.5kΩ	"	Carbon (for W.Germany)
R162	QRD148J-5R6S	5.6Ω	"	Carbon
R181	QRG017J-152S	1.5kΩ	1W	Oxied Metal Film 
R182	QRG017J-152S	1.5kΩ	"	"
R183	QRG017J-152S	1.5kΩ	"	"
R184	QRG017J-152S	1.5kΩ	"	"
R185	QRD141J-101S	100Ω	1/4W	Carbon
R186	QRD141J-101S	100Ω	"	"
R187	QRD141J-101S	100Ω	"	"
R188	QRD141J-101S	100Ω	"	"
R189	QRD141J-223S	22kΩ	"	"
R190	QRD141J-223S	22kΩ	"	"
R201	QRD141J-331S	330Ω	"	"
R202	QRD141J-331S	330Ω	"	"
R205	QRD141J-331S	330Ω	"	"
R206	QRD141J-331S	330Ω	"	"
R207	QRD141J-331S	330Ω	"	"
R208	QRD141J-331S	330Ω	"	"
R209	QRD141J-331S	330Ω	"	"
R210	QRD141J-331S	330Ω	"	"
R211	QRD141J-105S	1MΩ	"	"
R212	QRD141J-105S	1MΩ	"	"
R213	QRD141J-105S	1MΩ	"	"
R214	QRD141J-105S	1MΩ	"	"
R215	QRD141J-105S	1MΩ	"	"

Resistors

Item No.	Part Number	Rating		Description
R216	QRD141J-105S	1MΩ	1/4W	Carbon
R217	QRD141J-680S	68Ω	"	"
R219	QRD141J-331S	330Ω	"	"
R220	QRD141J-331S	330Ω	"	"
R221	QRD141J-823S	82kΩ	"	"
R222	QRD141J-823S	82kΩ	"	"
R223	QRD141J-103S	10kΩ	"	"
R224	QRD141J-103S	10kΩ	"	"
R225	QRG027J-270	27Ω	2W	Oxied Metal Film 
R226	QRG017J-150S	15Ω	1W	"
R231	QRD148J-334S	330kΩ	"	Carbon
R232	QRD148J-334S	330kΩ	"	"
R233	QRD148J-104S	100kΩ	"	"
R234	QRD141J-104S	100kΩ	"	"
R235	QRD141J-105S	1MΩ	"	"
R236	QRD141J-105S	1MΩ	"	"

 : Safety Parts

Others

Item No.	Part Number	Rating	Description
J102	E10705-001 E302099-001 SBSB3008Z E03532-001 E04365-007		Circuit Board Shield Bracket Tapping Screw Shield Case (for W.Germany) Formed Wire Socket
J251	EMN00TV-402A		Pin Jack Assy
J252	EMN00TV-402A		Pin Jack Assy
J253	EMN00TV-402A		Pin Jack Assy
J254	EMN00TV-402A		Pin Jack Assy
J255	EMN00YV-401A		Pin Jack Assy
J256	E03623-003		Din Socket
P101	QMV5005-006		6P Plug Assy
P201	QMV5005-004		4P Plug Assy
P202	QMV5005-003		3P Plug Assy
P203	QMV5005-009		9P Plug Assy
S101	QSS8401-501		Slide Switch
S201	QST5362-E03		Push Switch
S204	QST5362-E02		Push Switch
S206	QSR6265-001		Rotary Switch
S207	QSR4523-203		Rotary Switch

7-(2) TXX-373 Drive Amp. P.C. Board Ass'y

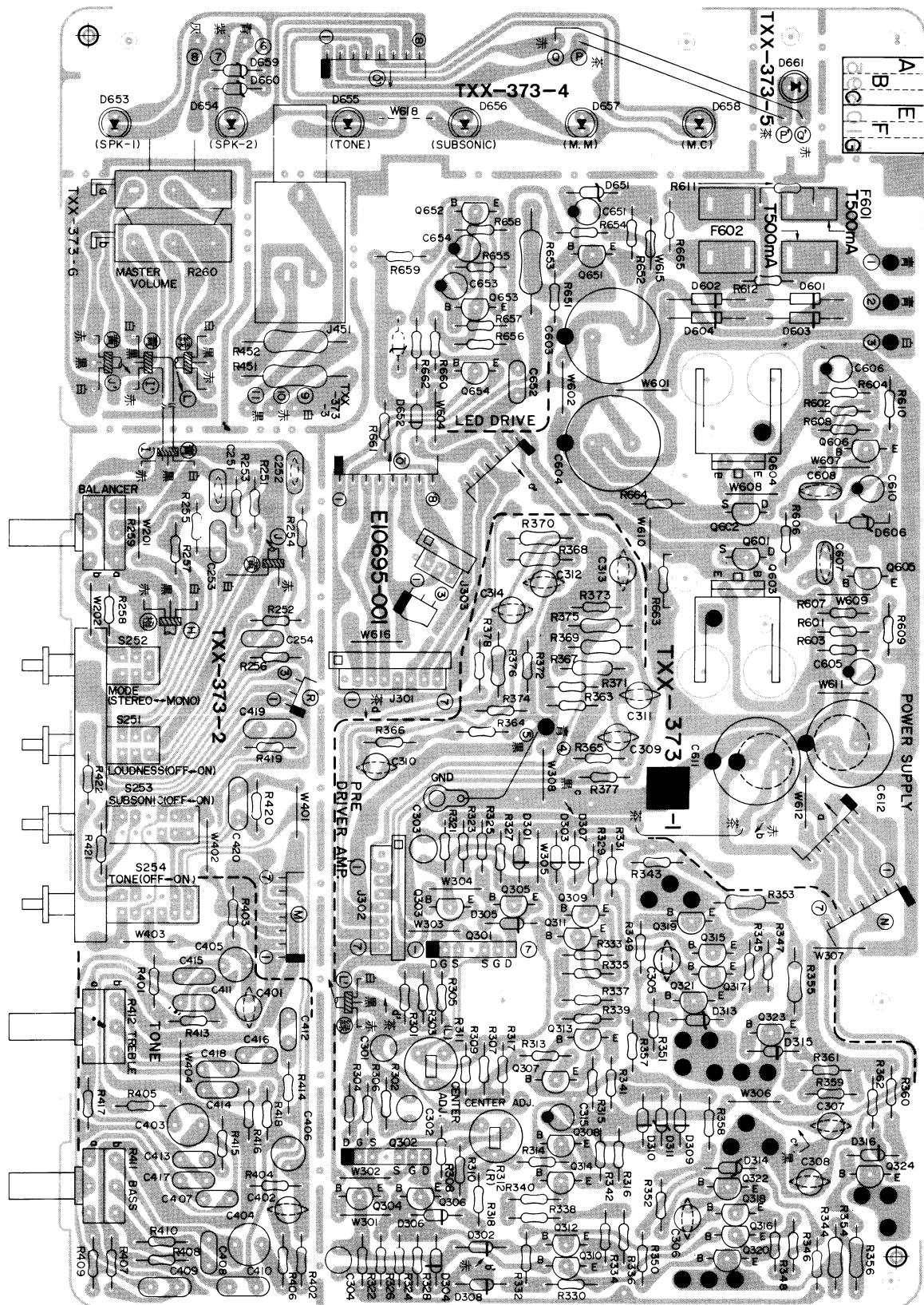


Fig. 10

Transistors

Item No.	Part Number	Rating	Description	Maker
Q301	2SK150A(GR,BL)		F.E.T.	Toshiba
Q302	2SK150A(GR,BL)		"	"
Q303	2SC1815(Y,GR)		Silicon	"
Q304	2SC1815(Y,GR)		"	"
Q305	1SC1815(Y,GR)		"	"
Q306	2SC1815(Y,GR)		"	"
Q307	2SC1815(Y,GR)		"	"
Q308	2SC1815(Y,GR)		"	"
Q309	2SC458(C,D)		"	Hitachi
Q310	2SC458(C,D)		"	"
Q311	2SC458(C,D)		"	"
Q312	2SC458(C,D)		"	"
Q313	2SC2240(GR,BL)		"	Toshiba
Q314	2SC2240(GR,BL)		"	"
Q315	2SA1029(C,D)		"	Hitachi
Q316	2SA1029(C,D)		"	"
Q317	2SA1029(C,D)		"	"
Q318	2SA1029(C,D)		"	"
Q319	2SA970(GR,BL)		"	Toshiba
Q320	2SA970(GR,BL)		"	"
Q321	2SA970(GR,BL)		"	"
Q322	2SA970(GR,BL)		"	"
Q323	2SC2910(S,T)		"	Sanyo
Q324	2SC2910(S,T)		"	"
Q601	2SK246(GR)		F.E.T.	Toshiba
Q602	2SK246(GR)		"	"
Q603	2SD313V(D,E)		Silicon	Sanyo
Q604	2SB507V(D,E)		"	"
Q605	2SC2240(GR,BL)		"	Toshiba
Q606	2SA970(GR,BL)		"	"
Q651	2SA965(O,Y)		"	"
Q652	2SC1815(Y,GR)		"	"
Q653	2SC1815(Y,GR)		"	"
Q654	2SC1815(Y,GR)		"	"

Diodes

Item No.	Part Number	Rating	Description	Maker
D301	1S2076-31		Silicon	Hitachi
D302	1S2076-31		"	"
D303	1S2076-31		"	"
D304	1S2076-31		"	"
D305	1S2076-31		"	"
D306	1S2076-31		"	"
D307	1S2076-31		"	"
D308	1S2076-31		"	"
D309	1S2076-31		"	"
D310	1S2076-31		"	"
D311	RD6.2EB3		"(Zener)	NEC
D313	RD2.7EB2		"(")	"
D314	RD2.7EB2		"(")	"
D315	1S2076-31		"	Hitachi
D316	1S2076-31		"	"
D601	10DF2FD		"	Nippon Inter Δ
D602	10DF2FD		"	"
D603	10DF2FD		"	"
D604	10DF2FD		"	"
D606	RD5.6EB3		"(Zener)	NEC
D651	RD5.6EB3		"(")	"
D652	1S2076-31		"	Hitachi
D653	SLP-270C		L.E.D.	Sanyo
D654	SLP-270C		"	"
D657	SLP-270C		"	"
D658	SLP-270C		"	"
D659	RD2.7EB2		Silicon	NEC
D660	RD2.7EB2		"(Zener)	"
D661	SLP-270C		"(")	"
			L.E.D.	Sanyo

Capacitors

Item No.	Part Number	Rating	Description
C251	QCS21HJ-331	330pF 50V	Ceramic
C252	QCS21HJ-331	330pF	"
C253	QFM81HJ-273	0.027 μ F	Mylar
C254	QFM81HJ-273	0.027 μ F	"
C301	QFS81HJ-330	33pF	Polystyrene
C302	QFS81HJ-330	33pF	"
C303	QFS81HJ-331	330pF	"
C304	QFS81HJ-331	330pF	"
C305	QCS22HJ-4R0	4pF 500V	Ceramic
C306	QCS22HJ-4R0	4pF	"
C307	QCS22HJ-330	33pF	"
C308	QCS22HJ-330	33pF	"
C309	QCS21HJ-680	68pF 50V	"
C310	QCS21HJ-680	68pF	"
C311	QCS21HJ-220	22pF	"
C312	QCS21HJ-220	22pF	"
C313	QCS21HJ-220	22pF	"
C314	QCS21HJ-220	22pF	"
C315	QET51HR-105H	1.5 μ F	Electrolytic
C401	QCS21HJ-820	82pF	Ceramic
C402	QCS21HJ-820	82pF	"
C403	QE20046-475	4.7 μ F	N.P. Electrolytic
C404	QE20046-475	4.7 μ F	"
C405	QE20046-225	2.2 μ F	"
C406	QE20046-225	2.2 μ F	"
C407	QFM81HJ-183	0.018 μ F	Mylar
C408	QFM81HJ-183	0.018 μ F	"
C409	QFM81HJ-184	0.18 μ F	"
C410	QFM81HJ-184	0.18 μ F	"
C411	QFM81HJ-332	3300pF	"
C412	QFM81HJ-332	3300pF	"
C413	QFM81HJ-333	0.033 μ F	"
C414	QFM81HJ-333	0.033 μ F	"
C415	QFP31HJ-391	390pF	Polypropylene
C416	QFP31HJ-391	390pF	"
C417	QFP31HJ-432	4300pF	"
C418	QFP31HJ-432	4300pF	"
C419	QFM81HJ-274	0.27 μ F	Mylar
C420	QFM81HJ-274	0.27 μ F	"
C603	QET52AR-477E	270 μ F 100V	Electrolytic
C604	QET52AR-477E	270 μ F	"
C605	QET51JR-225H	2.2 μ F 63V	"
C606	QET51JR-225H	2.2 μ F	"
C607	QCS21HJ-101	100pF 50V	Ceramic
C608	QCS21HJ-101	100pF	"
C610	QET51CR-476H	47 μ F 16V	Electrolytic
C611	QET51JR-107H	100 μ F 63V	"
C612	QET51JR-107H	100 μ F	"
C651	QET51HR-225H	2.2 μ F 50V	"
C652	QFM81HJ-473	0.47 μ F 150V	Mylar
C653	QET51HR-225H	2.2 μ F 50V	Electrolytic
C654	QET51HR-225H	2.2 μ F	"

Resistors

Item No.	Part Number	Rating	Description
R251	QRD141J-333S	33k Ω 1/4W	Carbon
R252	QRD141J-333S	33k Ω	"
R253	QRD141J-105S	1M Ω	"
R254	QRD141J-105S	1M Ω	"
R255	QRD141J-203S	20k Ω	"
R256	QRD141J-203S	20k Ω	"
R257	QRD141J-472S	4.7k Ω	"
R258	QRD141J-472S	4.7k Ω	"
R259	QVD7A2M-1F5V	250k Ω	Variable
R260	QVZ1221-002	100k Ω	"

Resistors

Item No.	Part Number	Rating		Description
R301	QRD141J-105S	1M Ω	1/4W	Carbon
R302	QRD141J-105S	"	"	"
R303	QRD141J-151S	150 Ω	"	"
R304	QRD141J-151S	"	"	"
R305	QRD141J-470S	47 Ω	"	"
R306	QRD141J-470S	"	"	"
R307	QRD141J-220S	22 Ω	"	"
R308	QRD141J-220S	"	"	"
R309	QRD141J-220S	"	"	"
R310	QRD141J-220S	"	"	"
R311	QVP4A0B-101	100 Ω		Variable
R312	QVP4A0B-101	"		"
R313	QRD141J-123S	12k Ω	1/4W	Carbon
R314	QRD141J-123S	"	"	"
R315	QRD141J-222S	2.2k Ω	"	"
R316	QRD141J-222S	"	"	"
R317	QRD141J-223S	22k Ω	"	"
R318	QRD141J-223S	"	"	"
R321	QRD141J-682S	6.8k Ω	"	"
R322	QRD141J-682S	"	"	"
R323	QRD141J-682S	"	"	"
R324	QRD141J-682S	"	"	"
R325	QRD141J-154S	150k Ω	"	"
R326	QRD141J-154S	"	"	"
R327	QRD141J-221S	220 Ω	"	"
R328	QRD141J-221S	"	"	"
R329	QRD141J-681S	680 Ω	"	"
R330	QRD141J-681S	"	"	"
R331	QRD141J-681S	"	"	"
R332	QRD141J-681S	"	"	"
R333	QRD141J-391S	390 Ω	"	"
R334	QRD141J-391S	"	"	"
R335	QRD141J-391S	"	"	"
R336	QRD141J-391S	"	"	"
R337	QRD148J-512S	5.1k Ω	"	"
R338	QRD148J-512S	"	"	"
R339	QRD148J-512S	"	"	"
R340	QRD148J-512S	"	"	"
R341	QRD141J-152S	1.5k Ω	"	"
R342	QRD141J-152S	"	"	"
R343	QRD149J-121S	120 Ω	"	UNF. Carbon Δ
R344	QRD149J-121S	"	"	"
R345	QRD141J-5R6S	5.6 Ω	"	Carbon
R346	QRD141J-5R6S	"	"	"
R347	QRD141J-5R6S	"	"	"
R348	QRD141J-5R6S	"	"	"
R349	QRD141J-151S	150 Ω	"	"
R350	QRD141J-151S	"	"	"
R351	QRD141J-151S	"	"	"
R352	QRD141J-151S	"	"	"
R353	QRD129J-472	4.7k Ω	1/2W	UNF. Carbon Δ
R354	QRD129J-472	"	"	"
R355	QRD129J-472	"	"	"
R356	QRD129J-472	"	"	"
R357	QRD141J-104S	100k Ω	1/4W	Carbon
R358	QRD141J-104S	"	"	"
R359	QRD149J-221S	220 Ω	"	UNF. Carbon Δ
R360	QRD149J-221S	"	"	"
R361	QRD149J-221S	"	"	"
R362	QRD149J-221S	"	"	"
R363	QRD141J-471S	470 Ω	"	Carbon
R364	QRD141J-471S	"	"	"
R365	QRD141J-472S	4.7k Ω	"	"
R366	QRD141J-472S	"	"	"
R367	QRD129J-122	1.2k Ω	1/2W	UNF. Carbon Δ
R368	QRD129J-122	"	"	"
R369	QRD129J-272	2.7k Ω	"	"
R370	QRD129J-272	"	"	"
R371	QRD148J-301S	300 Ω	1/4W	Carbon
R372	QRD148J-301S	"	"	"

Resistors

Item No.	Part Number	Rating		Description
R373	QRD148J-301S	300 Ω	1/4W	Carbon
R374	QRD148J-301S	"	"	"
R375	QRD129J-392	3.9k Ω	1/2W	UNF. Carbon Δ
R376	QRD129J-392	"	"	"
R377	QRD141J-475S	4.7M Ω	1/4W	Carbon
R378	QRD141J-475S	"	"	"
R401	QRD141J-684S	680k Ω	"	"
R402	QRD141J-684S	"	"	"
R403	QRD141J-223S	22k Ω	"	"
R404	QRD141J-223S	"	"	"
R405	QRD141J-223S	"	"	"
R406	QRD141J-223S	"	"	"
R407	QRD141J-202S	2k Ω	"	"
R408	QRD141J-202S	"	"	"
R409	QRD141J-133S	13k Ω	"	"
R410	QRD141J-133S	"	"	"
R411	QVZ1709-009	50k Ω		Variable
R412	QVZ1709-010	"		"
R413	QRD141J-432S	4.3k Ω	1/4W	Carbon
R414	QRD141J-432S	"	"	"
R415	QRD141J-391S	390 Ω	"	"
R416	QRD141J-391S	"	"	"
R417	QRD141J-183S	18k Ω	"	"
R418	QRD141J-183S	"	"	"
R419	QRD141J-105S	1M Ω	"	"
R420	QRD141J-105S	"	"	"
R451	QRG027-331	330 Ω	2W	Oxied Metal Film Δ
R452	QRG027J-331	"	"	"
R601	QRD148J-913S	91k Ω	1/4W	Carbon
R602	QRD148J-433S	43k Ω	"	"
R603	QRD148J-114S	110k Ω	"	"
R607	QRD149J-221S	220 Ω	"	UNF. Carbon Δ
R608	QRD149J-221S	"	"	"
R609	QRD141J-513S	51k Ω	"	Carbon
R651	QRD141J-623S	62k Ω	"	"
R652	QRD149J-221S	220 Ω	"	UNF. Carbon Δ
R653	QRG027J-122	1.2k Ω	2W	Oxied Metal Film Δ
R654	QRD141J-473S	47k Ω	1/4W	Carbon
R655	QRD141J-472S	4.7k Ω	"	"
R656	QRD141J-472S	"	"	"
R657	QRD141J-394S	390k Ω	"	"
R658	QRD141J-394S	"	"	"
R659	QRD141J-182S	1.8k Ω	"	"
R660	QRD141J-103S	10k Ω	"	"
R661	QRD141J-101S	100 Ω	"	"
R662	QRD141J-103S	10k Ω	"	"
R663	QRD141J-563S	56k Ω	"	"
R664	QRD141J-563S	"	"	"
R665	QRD141J-105S	1M Ω	"	"

 Δ : Safety Parts

Others

Item No.	Part Number	Rating	Description
	EMG7331-001		Fuse Clip
	E10695-001		Circuit Board
	SBSB3008CC		Screw (coppered)
	SBSB3008M		Screw
	E61537-001		Heat-Sink
J301	E04365-007		Formed Wire Socket
J302	E04365-007		Formed Wire Socket
J451	QMS6302-105		Jack Assy
P301	QMV5005-003		3P Plug Assy
S251	QST5442-E01		Push Switch

7-(3) TXX-374 Power Amp. P.C. Board Ass'y

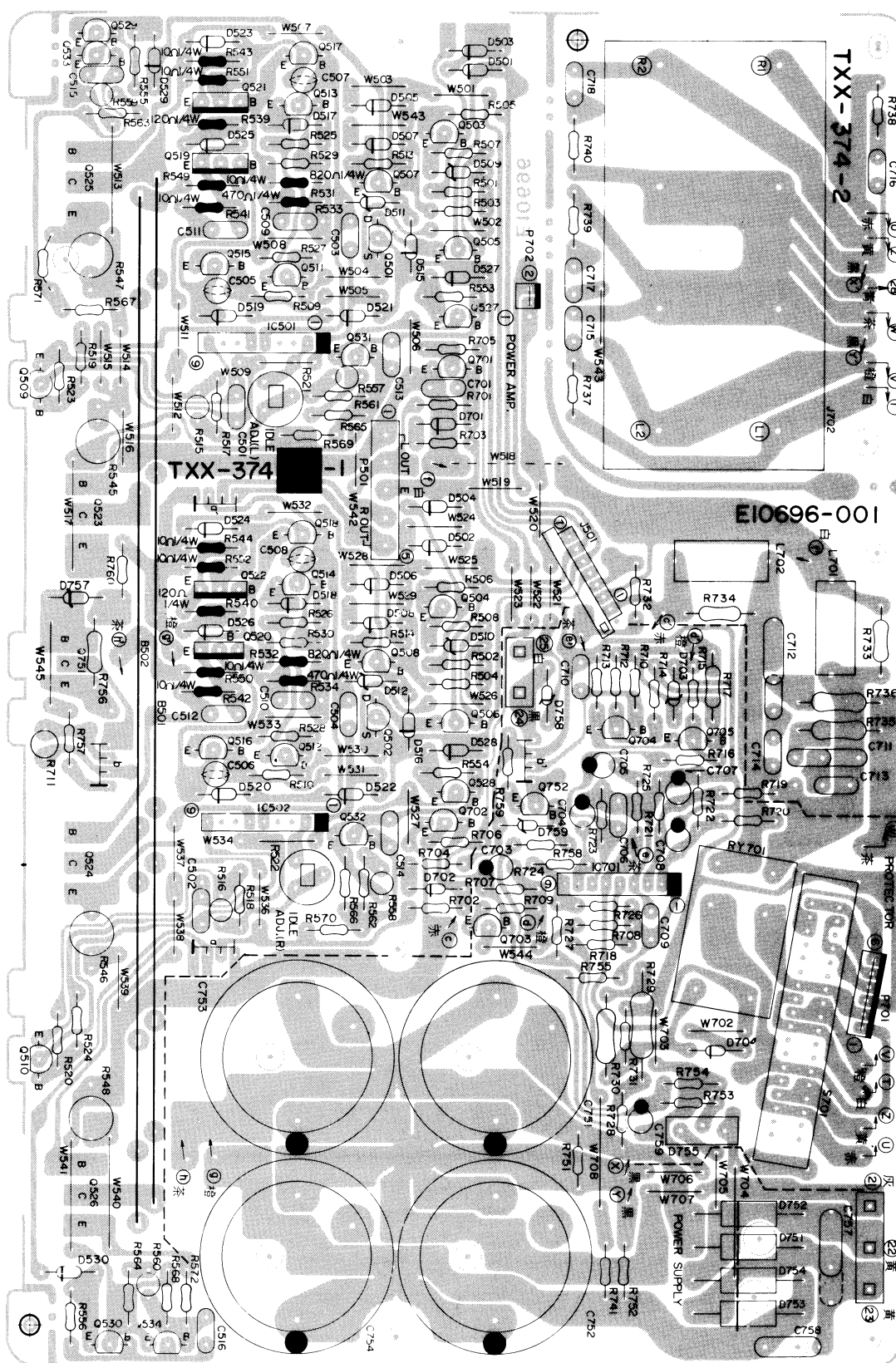


Fig. 11

Transistors

Item No.	Part Number	Rating	Description	Maker
Q501	2SK170(BL,V)		F.E.T.	Toshiba
Q502	2SK170(BL,V)		"	"
Q503	2SA970(GR,BL)		Silicon	"
Q504	2SA970(GR,BL)		"	"
Q505	2SC2910(S,T)		"	Sanyo
Q506	2SC2910(S,T)		"	"
Q507	2SC2910(S,T)		"	"
Q508	2SC2910(S,T)		"	"
Q509	2SC1815(Y,GR)		"	Toshiba
Q510	2SC1815(Y,GR)		"	"
Q511	2SC1815(Y,GR)		"	"
Q512	2SC1815(Y,GR)		"	"
Q513	2SA1015(Y,GR)		"	"
Q514	2SA1015(Y,GR)		"	"
Q515	2SC2240(BL)		"	"
Q516	2SC2240(BL)		"	"
Q517	2SA970(BL)		"	"
Q518	2SA970(BL)		"	"
Q519	2SD669A(B,C)		"	Hitachi
Q520	2SD669A(B,C)		"	"
Q521	2SB649A(B,C)		"	"
Q522	2SB649A(B,C)		"	"
Q523	2SC2838LF(O,Y)		"	Sanken
Q524	2SC2838LF(O,Y)		"	"
Q525	2SA1187LF(O,Y)		"	"
Q526	2SA1187LF(O,Y)		"	"
Q527	2SA1015(Y)		"	Toshiba
Q528	2SA1015(Y)		"	"
Q529	2SC1815(Y)		"	"
Q530	2SC1815(Y)		"	"
Q531	2SC1815(Y)		"	"
Q532	2SC1815(Y)		"	"
Q533	2SA1015(Y)		"	"
Q534	2SA1015(Y)		"	"
Q701	2SC2240(GR,BL)		"	"
Q702	2SC2240(GR,BL)		"	"
Q703	2SA970(GR,BL)		"	"
Q751	2SD1265A(O,P)		"	Matsushita
Q752	2SA1015(Y,GR)		"	Toshiba

Diodes

Item No.	Part Number	Rating	Description	Maker
D511	RD2.7EB2		Silicon (Zener)	NEC
D512	RD2.7EB2		" (")	"
D515	1S2076-31		Silicon	Hitachi
D516	1S2076-31		"	"
D517	1S2076-31		"	"
D518	1S2076-31		"	"
D519	1S2076-31		"	"
D520	1S2076-31		"	"
D521	1SS81		"	"
D522	1SS81		"	"
D523	1SS81		"	"
D524	1SS81		"	"
D525	1S2076-31		"	"
D526	1S2076-31		"	"
D527	1S2076-31		"	"
D528	1S2076-31		"	"
D529	1S2076-31		"	"
D530	1S2076-31		"	"
D701	1S2076-31		"	"
D702	1S2076-31		"	"
D704	1S2076-31		"	"
D751	S3V20F		"	Shindengen
D752	S3V20F		"	"
D753	S3V20F		"	"
D754	S3V20F		"	"
D755	S2VC20R		"	"
D757	RD2.7EB2		" (Zener)	NEC
D758	RD10EB3		" (")	"
D759	RD5.6EB3		" (")	"

Coils

Item No.	Part Number	Rating	Description
L701	EQL0003-1R0		Choke Coil
L702	EQL0003-1R0		"

Integrated Circuits

Item No.	Part Number	Rating	Description	Maker
IC501	VC5022-2		I.C.	Sanyo
IC502	VC5022-2		"	"
IC701	TA7317P		"	Toshiba

Diodes

Item No.	Part Number	Rating	Description	Maker
D501	1S2076-31		Silicon	Hitachi
D502	1S2076-31		"	"
D503	1S2076-31		"	"
D504	1S2076-31		"	"
D505	1S2076-31		"	"
D506	1S2076-31		"	"
D507	1S2076-31		"	"
D508	1S2076-31		"	"
D509	RD2.7EB2		" (Zener)	NEC
D510	RD2.7EB2		" (")	"

Capacitors

Item No.	Part Number	Rating	Description
C503	QFP31HJ-472	4700pF	Polypropylene
C504	QFP31HJ-472	"	"
C505	QFS82BJ-680	68pF	Polystyrene
C506	QFS82BJ-680	"	"
C507	QFS82BJ-330	33pF	"
C508	QFS82BJ-330	"	"
C509	QFM81HJ-123	0.012μF	50V Mylar
C510	QFM81HJ-123	"	"
C511	QFM81HJ-104	0.1μF	"
C512	QFM81HJ-104	"	"
C513	QFM81HJ-102	1000pF	"
C514	QFM81HJ-102	"	"
C515	QFM81HJ-102	"	"
C516	QFM81HJ-102	"	"
C703	QET51HR-226H	22μF	Electrolytic
C704	QET51CR-226H	"	"
C705	QET51HR-474H	0.47μF	50V Mylar
C706	QFM81HJ-153	0.015μF	Electrolytic
C707	QET51AR-476H	47μF	"
C708	QET51AR-476H	"	"

Capacitors

Item No.	Part Number	Rating		Description
C709	QFM81HJ-102	1000pF	50V	Mylar
C711	QFM81HJ-104	0.1μF	"	"
C712	QFM81HJ-104	"	"	"
C713	QFM81HJ-104	"	"	"
C714	QFM81HJ-104	"	"	"
C715	QFM81HJ-103	0.01μF	"	"
C716	QFM81HJ-103	"	"	(for W.Germany) Mylar
C717	QFM81HJ-103	"	"	(for W.Germany) Mylar
C718	QFM81HJ-103	"	"	(for W.Germany) Mylar
C751	EEW6303-568	5600μF	"	Electrolytic
C752	EEW6303-568	"	"	"
C753	EEW6302-688	6800μF	"	"
C754	EEW6302-688	"	"	"
C757	QFZ0074-224	0.22μF	"	Metallized Mylar
C758	QFZ0074-104	0.1μF	"	"
C759	QET51HR-105H	1μF	50V	Electrolytic

Resistors

Item No.	Part Number	Rating		Description
R501	QRD141J-473S	47kΩ	1/4W	Carbon
R504	QRD141J-473S	"	"	"
R505	QRD149J-331S	330Ω	"	UNF. Carbon △
R506	QRD149J-331S	"	"	"
R507	QRD149J-222S	2.2kΩ	"	"
R508	QRD149J-222S	"	"	"
R509	QRD149J-271S	270Ω	"	"
R510	QRD149J-271S	"	"	"
R513	QRD149J-470S	47	"	"
R514	QRD149J-470S	"	"	"
R517	QRD141J-151S	150Ω	"	Carbon
R518	QRD141J-151S	"	"	"
R519	QRD141J-391S	390Ω	"	"
R520	QRD141J-391S	"	"	"
R521	QVZ3501-471	470Ω	"	Variable
R522	QVZ3501-471	"	"	"
R523	QRD141J-431S	430Ω	1/4W	Carbon
R524	QRD141J-431S	"	"	"
R525	QRD149J-471S	470Ω	"	UNF. Carbon △
R526	QRD149J-471S	"	"	"
R527	QRD149J-471S	"	"	"
R528	QRD149J-471S	"	"	"
R529	QRD149J-471S	"	"	"
R530	QRD149J-471S	"	"	"
R531	QRZ0052-821	820Ω	"	Fusible △
R532	QRZ0052-821	"	"	"
R533	QRZ0052-471	470Ω	"	"
R534	QRZ0052-471	"	"	"
R539	QRZ0052-121	120Ω	"	"
R540	QRZ0052-121	"	"	"
R541	QRZ0052-100	10Ω	"	"
R542	QRZ0052-100	"	"	"
R543	QRZ0052-100	"	"	"
R544	QRZ0052-100	"	"	"
R545	QRZ0001-R22	0.22Ω	"	Cement △
R546	QRZ0001-R22	"	"	"
R547	ERZ0001-R22	"	"	"
R548	ERZ0001-R22	"	"	"
R549	QRZ0052-100	10Ω	"	Fusible △
R550	QRZ0052-100	"	"	"

Resistors

Item No.	Part Number	Rating		Description
R551	QRZ0052-100	10Ω	1/4W	Fusible △
R552	QRZ0052-100	"	"	"
R553	QRD141J-103S	10kΩ	"	Carbon
R554	QRD141J-103S	"	"	"
R555	QRD141J-103S	"	"	"
R556	QRD141J-103S	"	"	"
R561	QRD141J-820S	82Ω	"	"
R562	QRD141J-820S	"	"	"
R563	QRD141J-820S	"	"	"
R564	QRD141J-820S	"	"	"
R565	QRD148J-111S	110Ω	"	"
R566	QRD148J-111S	"	"	"
R567	QRD148J-111S	"	"	"
R568	QRD148J-111S	"	"	"
R569	QRD148J-151S	150Ω	"	"
R570	QRD148J-151S	"	"	"
R571	QRD148J-131S	130Ω	"	"
R572	QRD148J-131S	"	"	"
R701	QRD141J-222S	2.2kΩ	"	"
R702	QRD141J-222S	"	"	"
R703	QRD141J-183S	18kΩ	"	"
R704	QRD141J-183S	"	"	"
R705	QRD141J-333S	33kΩ	"	"
R706	QRD141J-333S	"	"	"
R707	QRD141J-103S	10kΩ	"	"
R708	QRD141J-473S	47kΩ	"	"
R709	QRD141J-332S	3.3kΩ	"	"
R718	QRD141J-123S	12kΩ	"	"
R719	QRD141J-563S	56kΩ	"	"
R720	QRD141J-563S	"	"	"
R721	QRD141J-273S	27kΩ	"	"
R722	QRD141J-273S	"	"	"
R723	QRD141J-333S	33kΩ	"	"
R724	QRD141J-334S	330kΩ	"	"
R725	QRD141J-683S	68kΩ	"	"
R726	QRD141J-683S	"	"	"
R727	QRD141J-273S	27kΩ	"	"
R728	QRD149J-270S	27Ω	"	UNF. Carbon △
R729	QRG027J-471	470Ω	2W	Oxide Metal Film △
R730	QRG017J-271S	270Ω	1W	"
R731	QRD141J-103S	10kΩ	1/4W	Carbon
R732	QRD141J-123S	12kΩ	"	"
R733	QRD129J-330	33Ω	1/2W	UNF. Carbon △
R734	QRD129J-330	"	"	"
R735	QRX017J-4R7S	4.7Ω	1W	Metal Film △
R736	QRX017J-4R7S	"	"	"
R737	QRZ0052-100	10Ω	1/4W	Fusible △ (for W. Germany)
R738	QRZ0052-100	"	"	Fusible △ (for W. Germany)
R739	QRZ0052-100	"	"	Fusible △ (for W. Germany)
R740	QRZ0052-100	"	"	Fusible △ (for W. Germany)
R741	QRD141J-103S	10kΩ	"	Carbon
R751	QRD141J-563S	56kΩ	"	"
R752	QRD141J-563S	"	"	"
R753	QRD141J-103S	10kΩ	"	"
R754	QRD141J-822S	8.2kΩ	"	"
R755	QRD141J-104S	100kΩ	"	"
R756	QRD129J-150	15Ω	1/2W	UNF. Carbon △
R757	QRD141J-103S	10kΩ	1/4W	Carbon
R758	QRD141J-682S	6.8kΩ	"	"
R759	QRD141J-222S	2.2kΩ	"	"
R760	QRD149J-4R7S	4.7Ω	"	UNF. Carbon △

△ : Safety Parts

Thermistors

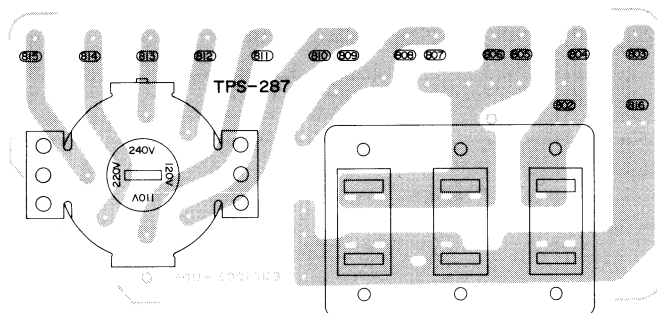
Item No.	Part Number	Rating	Description
			Maker
R515	ERT-D2WFL351S		Matsushita
R516	ERT-D2WFL351S		"
R557	ERT-D2WFL351S		"
R558	ERT-D2WFL351S		"
R559	ERT-D2WFL351S		"
R560	ERT-D2WFL351S		"

Others

Item No.	Part Number	Rating	Description
	E10696-001 E67294-003 E302102-001 E302102-002 LPSP3012N		Circuit Board Leaf Spring Heat-sink bracket Heat-sink bracket Screw
J501	SBSB3008CC SBSE3012CC E300209-010 E04365-007		Screw (coppered) Screw (") Heat-sink Formed Wire Socket Speaker Terminal
J702	EMB00TP-801A		
P501	E03628-5UD		5 Pin Plug
P701	QMV5005-006		6P Plug Assy
P702	QMV5005-002		2P Plug Assy
S701	QSS6401-501		Slide Switch
RY701	ESK5D24-214		Relay

7-(4) TPS-287C AC Unit P.C. Board Ass'y

[for U.S.A. and Canada]

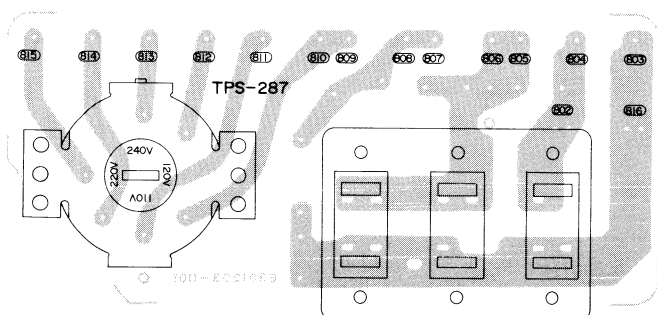


Item No.	Part Number	Rating	Description
C001	QCZ9014-103A QMC0637-004 QSR0085-001 E301203-003	0.01 μ F	Ceramic Capacitor Δ AC Outlet Δ Voltage Selector Δ Circuit Board

Fig. 12

7-(5) TPS-287D AC Unit P.C. Board Ass'y

[for U.S. Military Market and Other Countries]

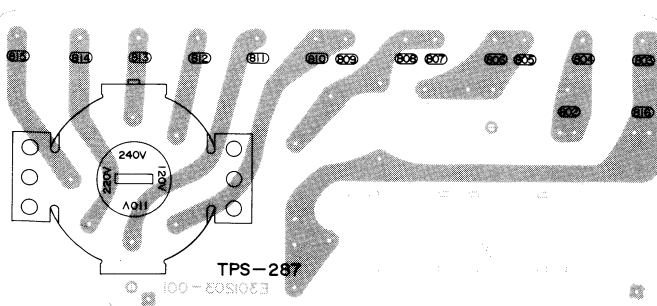


Item No.	Part Number	Rating	Description
C001	QFZ9010-103 QMC0637-004 QSR0085-001U E301203-003	0.01 μ F	Metalized Mylar Capacitor Δ AC Outlet Δ Voltage Selector Δ Circuit Board

Fig. 13

7-(6) TPS-287E AC Unit P.C. Board Ass'y

[for Europe, Australia, U.K. and West Germany]



Item No.	Part Number	Rating	Description
C001	QFZ9010-103 QSR0085-001U E47448-001 E301203-001	0.01 μ F	Metalized Mylar Capacitor Δ Voltage Selector Δ Holder Circuit Board

Δ : Safety Parts

Fig. 14

8. Packing Materials and Part Numbers

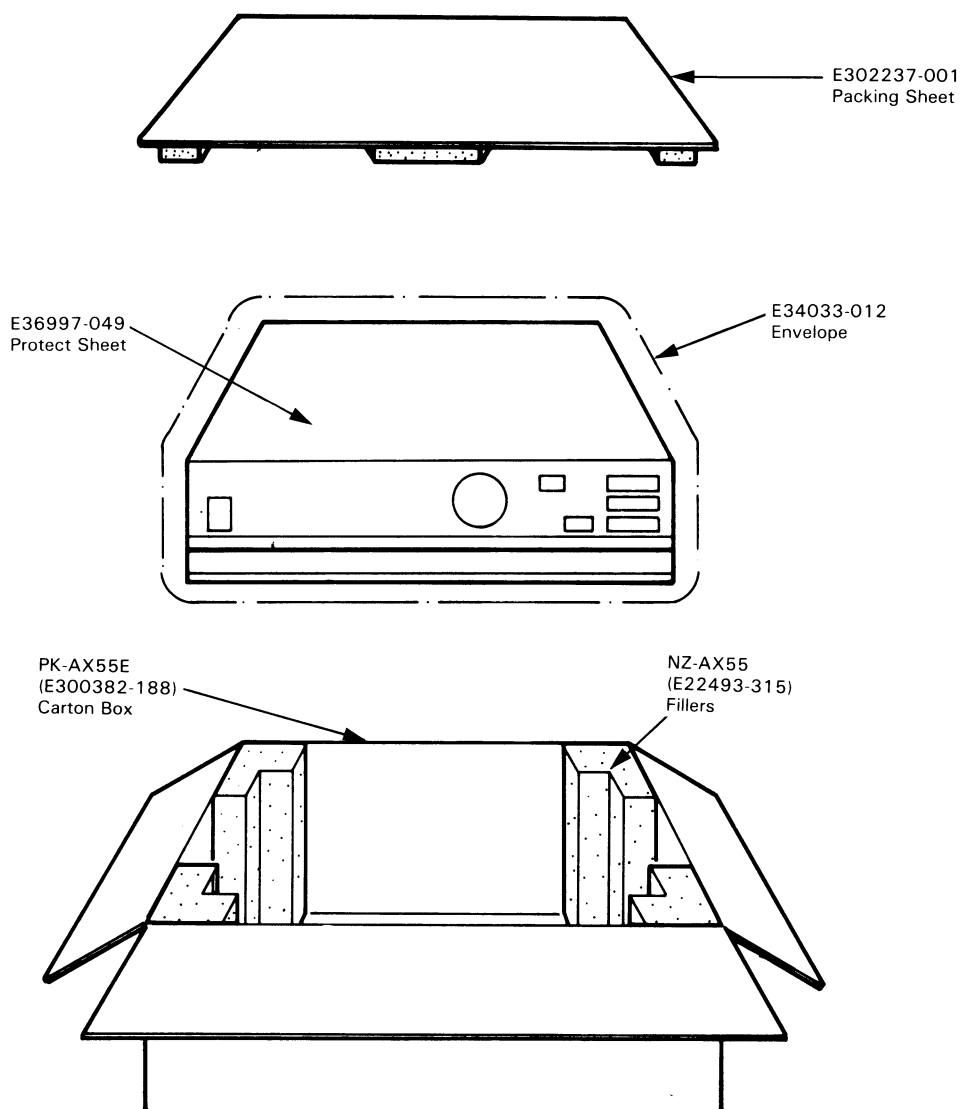


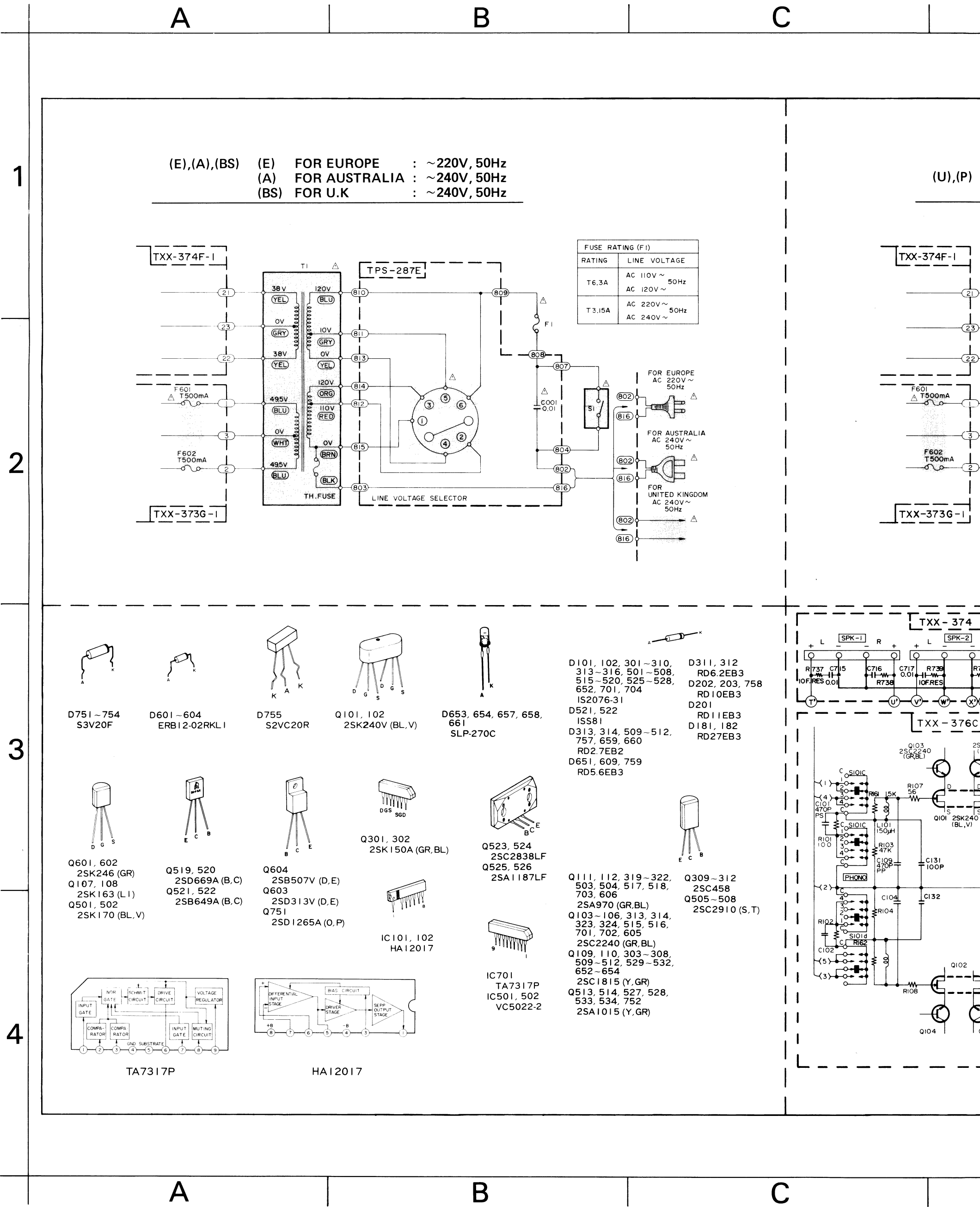
Fig. 15

9. Accessories List

Note: Instruction Book (Dutch & Spanish) for Europe and Other Countries E30580-1036A

Item No.	Part Number	Description	Q'ty
1	E30580-981A	Instruction Book	1
2	See page 22	Warranty Card	1
3	QMF51A2-6R3S (6.3A) or QMF51A2-3R15S (3.15A)	Fuse Primary (for U.S. Military Market and Other Countries)	1
4	E67142-T6R3 (6.3A) or E67142-T3R15 (3.15A)	Fuse Label (for U.S. Military Market and Other Countries)	1
5	BT20046A	Service Information Card (for U.S.A. and U.S. Military Market)	1
6	BT20044B	Safety Instruction Sheet (for U.S.A. only)	1
7	E41202-2	Envelope for Instruction Book and Warranty Card	1
8	E64208-001	Envelope for Fuse (for U.S. Military Market and Other Countries)	1

11. Power Supply Block for Designated Areas



A

B

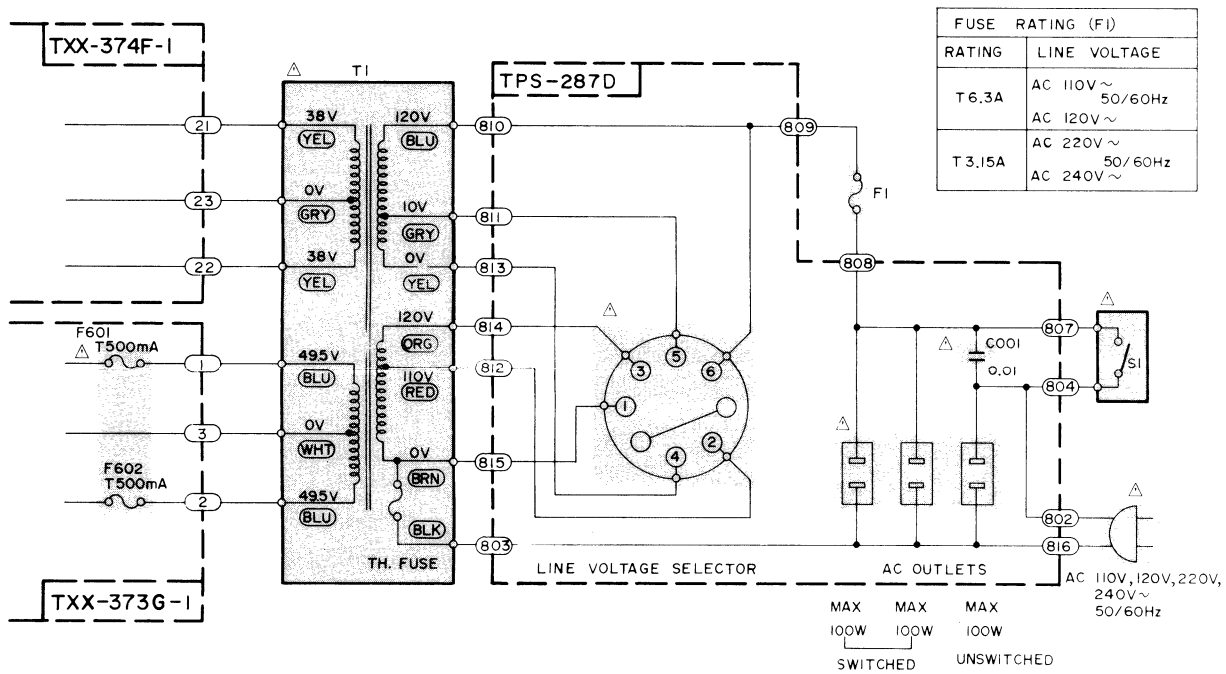
C

D

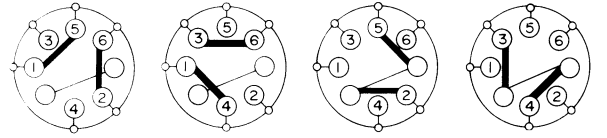
E

F

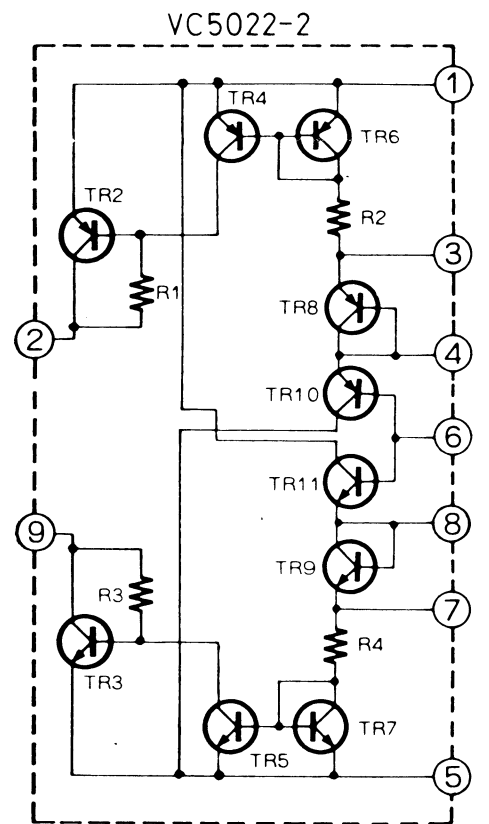
(U),(P)

(U) FOR OTHER COUNTRIES
(P) FOR U.S. MILITARY MARKET

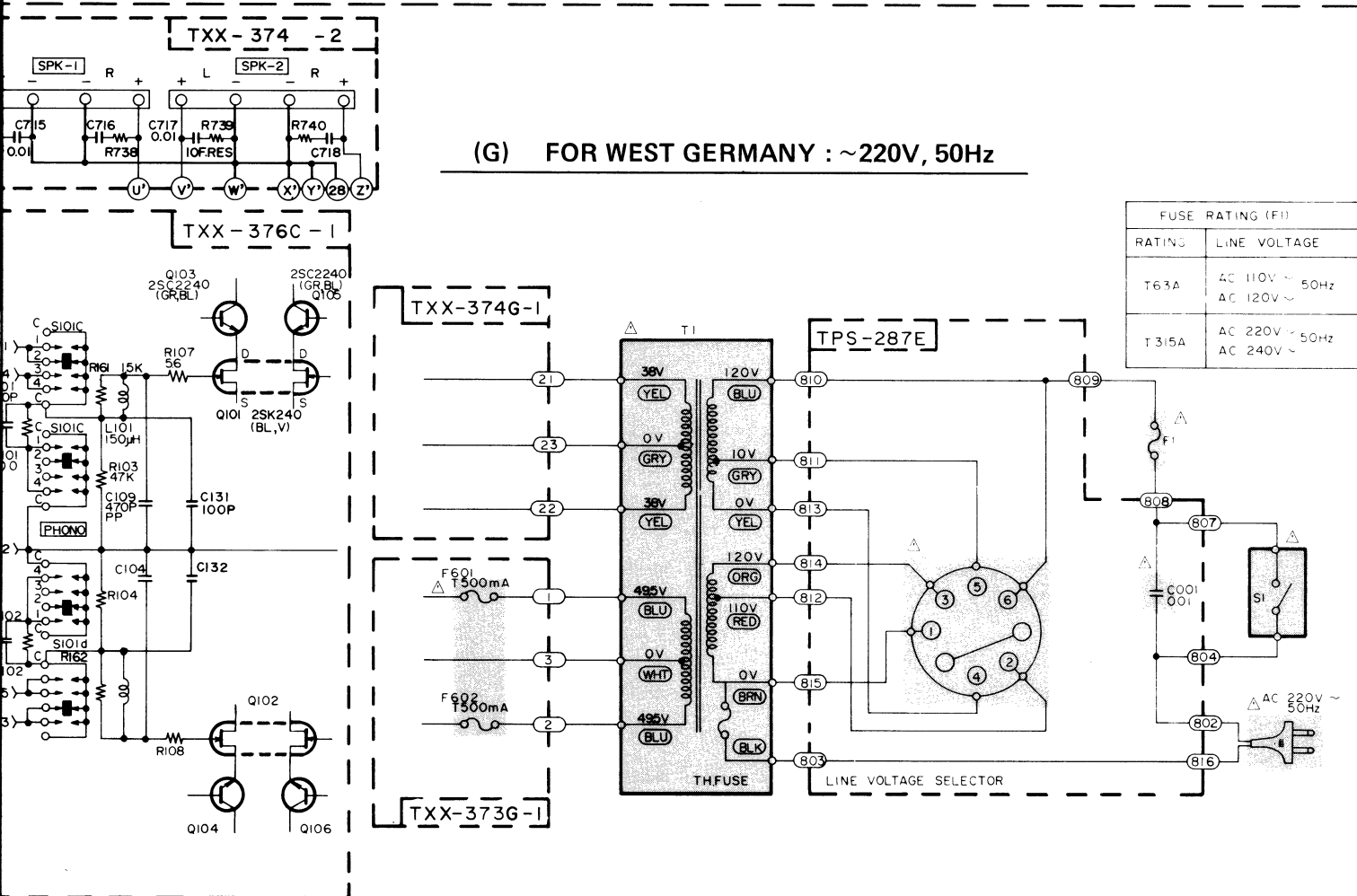
VOLTAGE SELECTOR CONNECTION



TOP VIEW



(G) FOR WEST GERMANY : ~220V, 50Hz

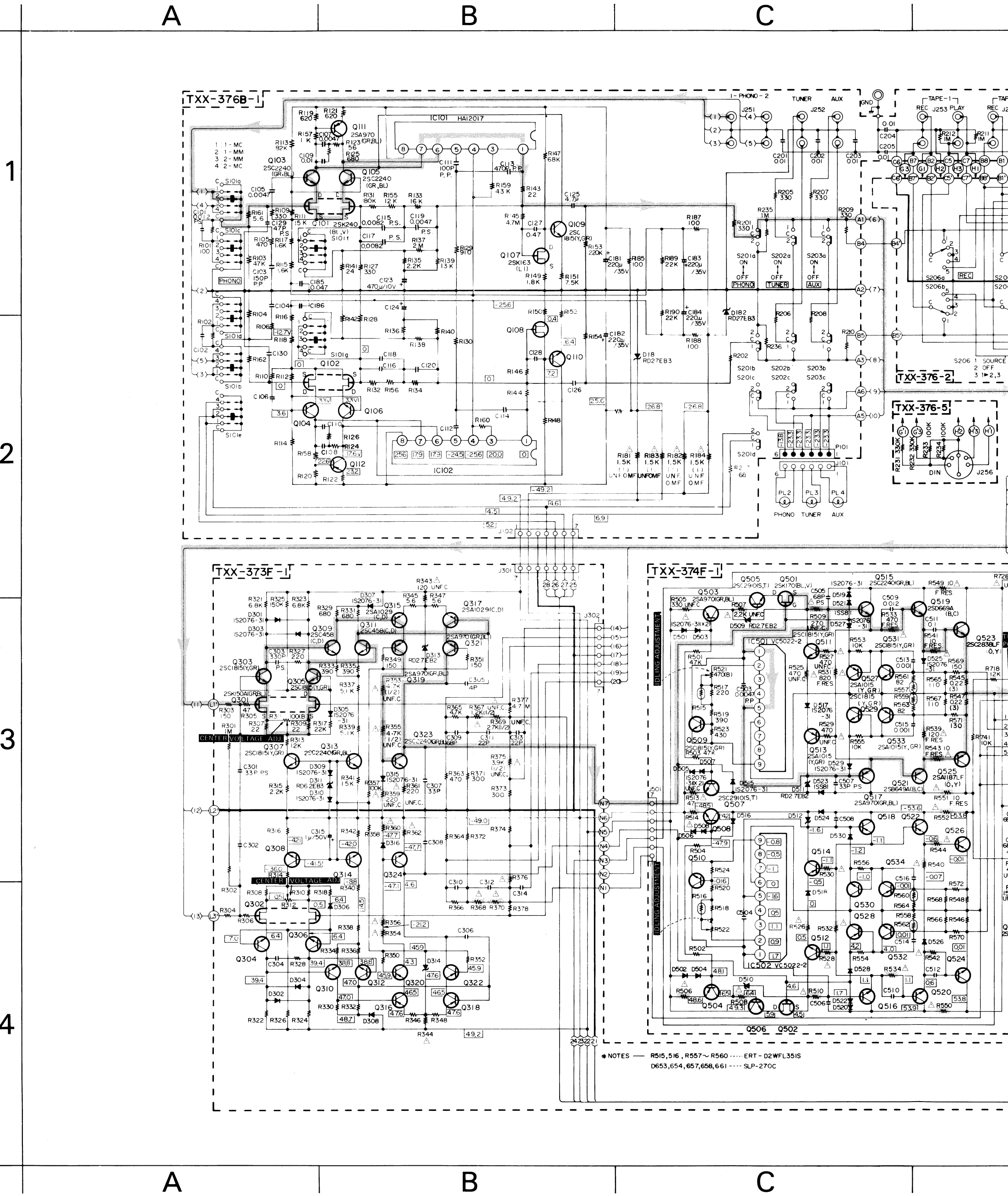


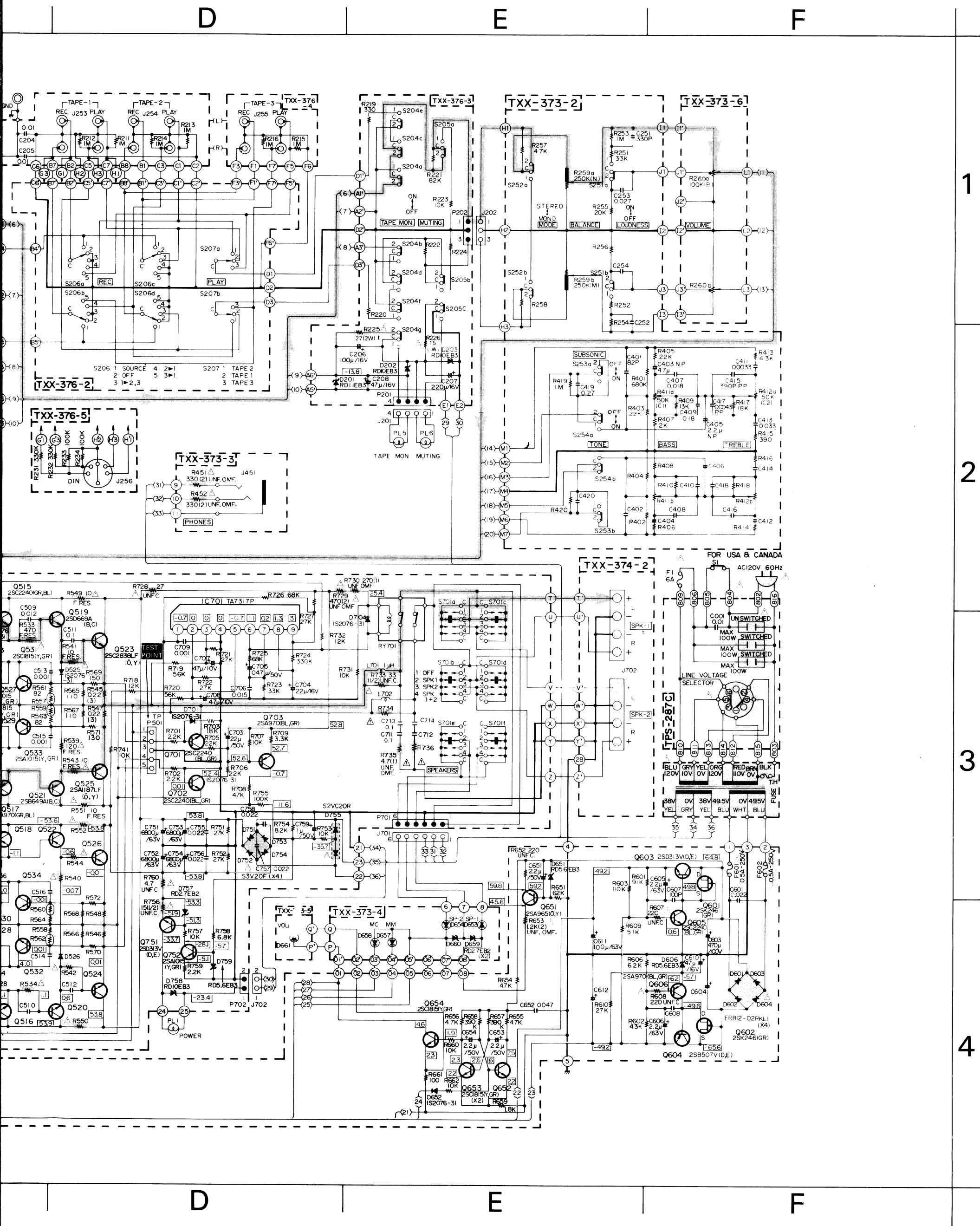
D

E

F

10. A-X55 Schematic Diagram













ate transistors or ICs.
ard circuit diagram.
contents are subject to change without

Printed Circuit Board Ass'y Location

P.C. Board Ass'y	Description	Page
TXX-376	Equalizer Amp. P.C. Board Ass'y	9
TXX-373	Drive Amp. P.C. Board Ass'y	12
TXX-374	Power Amp. P.C. Board Ass'y	15
TPS-287C	AC Unit P.C. Board Ass'y	18
TPS-287D	"	18
TPS-287E	"	18

12. Parts List with Specified Number for Designated Areas

Item No.	Description	U.S.A. & Canada	Europe & West Germany	Australia	U.K.	U.S. Military Market & Other Countries
1	Power Switch 	QSP1110-310	QSP1106-002	QSP1106-002	QSP1106-002	QSP1106-002
2	Switch Cover	—	E67520-002	—	E67520-002	E67520-002
3	AC Cover	—	E302104-001	E302104-001	E302104-001	—
4	Power Cord 	QMP1200-200	QMP3900-200	QMP2560-244	QMP9017-008	QMP1200-200
5	Siemens Plug 	—	—	—	—	E04056
6	Fuse Socket 	QMG0201-003	QMG0301-003	QMG0301-003	QMG0301-003	QMG0301-003
7	Fuse Primary 	QMF61U1-6R0 (6A 120V)	QMF51A2-3R15S (3.15A 220V/240V)	QMF51A2-3R15S (3.15A 220V/240V)	QMF51A2-3R15S (3.15A 220V/240V)	QMF51A2-6R3S (6.3A 110/120V)
8	Fuse Secondary 	QMF51U2-R50 (0.5A)	QMF51A2-R50L (0.5A)	QMF51A2-R50L (0.5A)	QMF51A2-R50L (0.5A)	QMF51A2-3R15S (3.15A 220V/240V)
9	Fuse Cover	—	E69291-001	E69291-001	E69291-001	—
10	Rear Panel	E24085-003	E24085-004	E24085-004	E24085-004	E24085-005
11	Voltage Selector 	QSR0085-001	QSR0085-001U	QSR0085-001U	QSR0085-001U	QSR0085-001U
12	Mask Plate for Voltage Selector	E67451-001	—	—	—	—
13	AC Outlet 	QMC0637-004	—	—	—	QMC0637-004
14	Mask Plate for AC Outlet	—	E65494-003	E65494-003	E65494-003	—
15	Warranty Card	BT20048 (for U.S.A.) BT20025E (for Canada)	BT20054-002A (for W.Germany Only)	BT20029B	BT20013C	BT20048 (for U.S.Military Market Only)

Note :  Safety parts

POWER SPECIFICATIONS

Areas	Line Voltage & Frequency	Power Consumption
U.S.A. & CANADA	AC 120 V, 60 Hz	360 watts, 430 VA
EUROPE, W. GERMANY U.K. & AUSTRALIA	AC 110/120/220/240 V~ Selectable, 50 Hz	470 watts
OTHER AREAS	AC 110/120/220/240 V~ Selectable, 50/60 Hz	470 watts